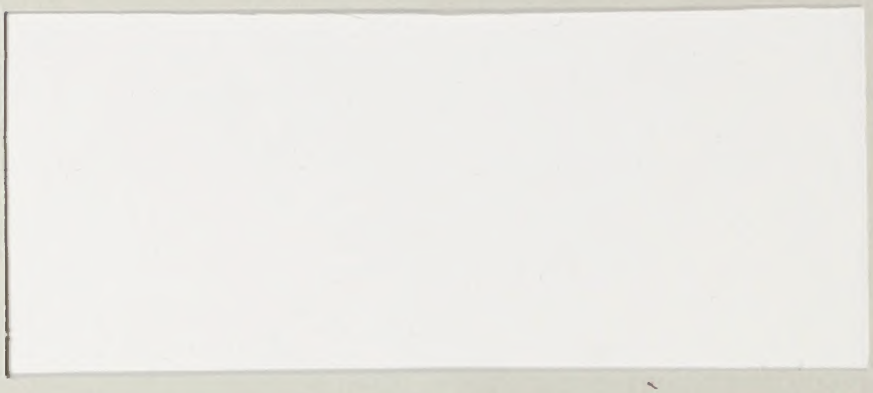
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FINAL REPORT

BASELINE METEOROLOGY AND AIR QUALITY IN THE UKIAH DISTRICT

APPENDICES

SCIENCE APPLICATIONS, INC.



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FINAL REPORT

BASELINE METEOROLOGY AND AIR QUALITY IN THE UKIAH DISTRICT

APPENDICES

Submitted to:

Bureau of Land Management
Sacramento, California

Prepared by:

W. P. Lynott
D. Rykaczewski
J. Rodell
H. Frentz
D. Cover

February 22, 1980

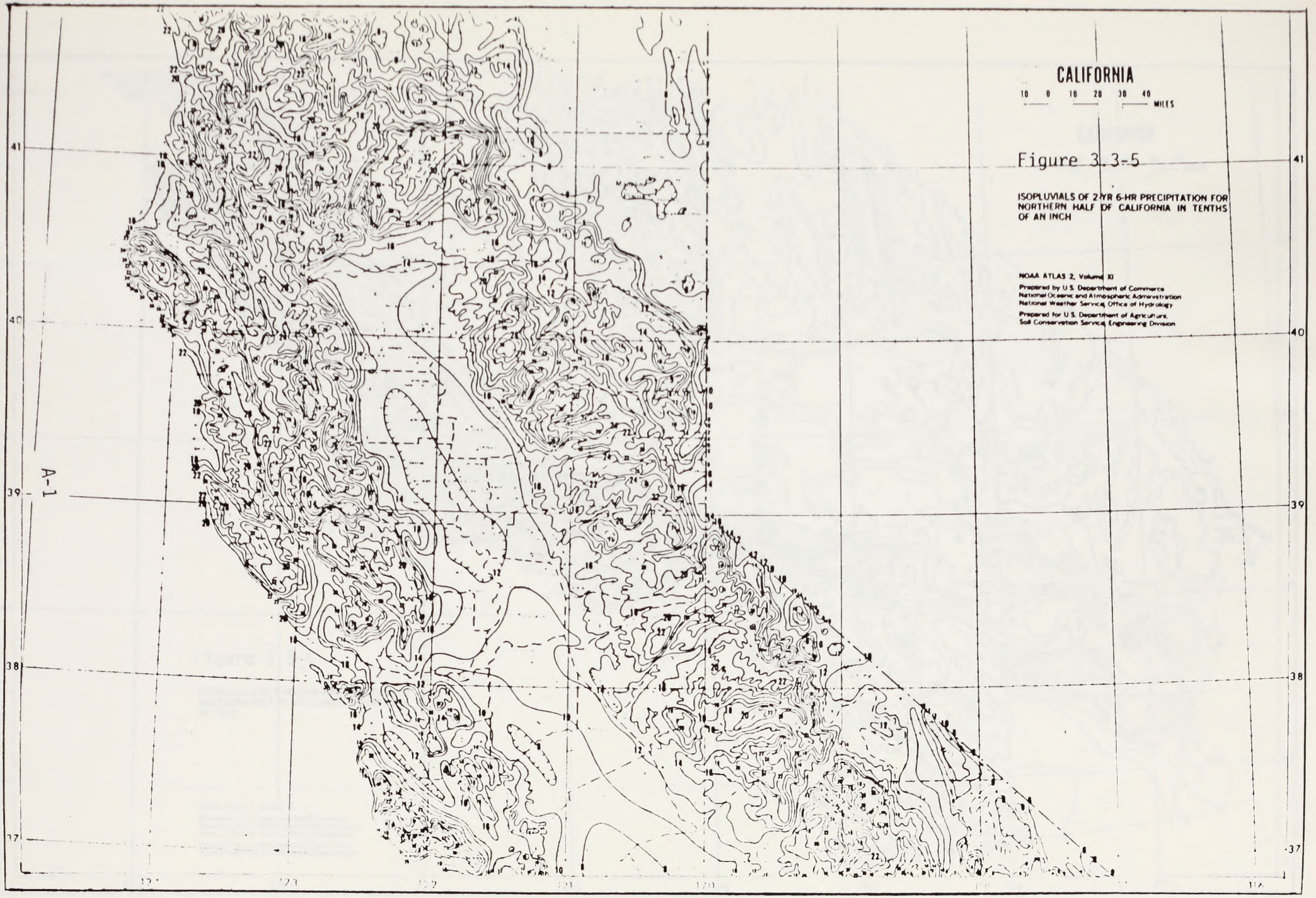
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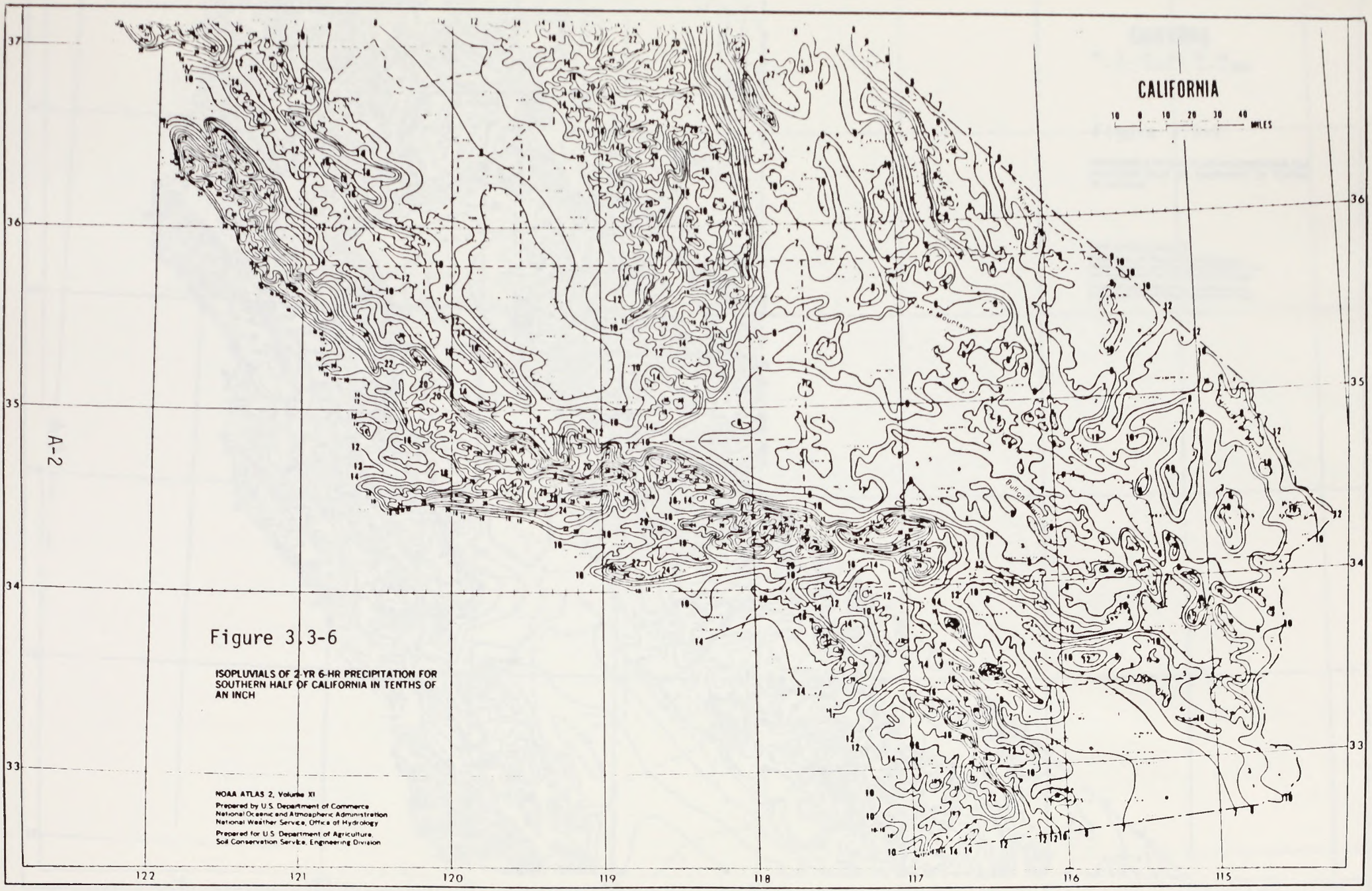
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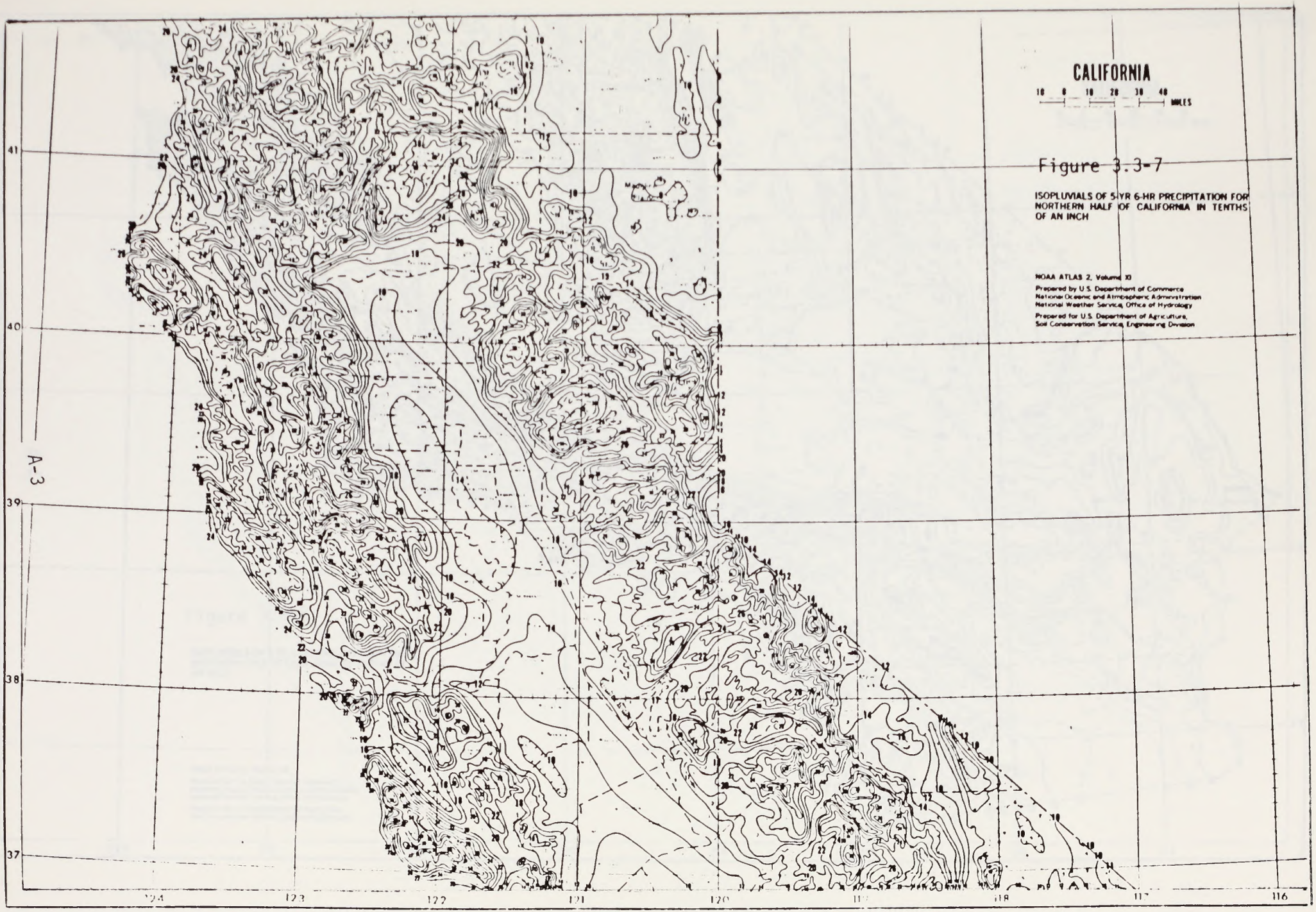
P.O. Box 2351, 1200 Prospect Street, La Jolla, California 92037

APPENDIX A

ISOPLUVIAL OR RAINFALL INTENSITY ANALYSES FOR CALIFORNIA


CALIFORNIA
10 0 10 20 30 40
MILES
Figure 3.3-5
ISOPLUVIALS OF 2-YR 6-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH
NOAA ATLAS 2, Volume XI
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National Weather Service, Office of Hydrology
Prepared for U.S. Department of Agriculture
Soil Conservation Service, Engineering Division
41
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A-1


CALIFORNIA
10 0 10 20 30 40 MILES
37
36
35
34
33
122
121
120
119
118
117
116
115
Sierra Nevada Mountains
Tehachapi Mountains
Transverse Ranges
Peninsular Ranges
Figure 3.3-6
ISOPLUVIALS OF 2-YR 6-HR PRECIPITATION FOR SOUTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH
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CALIFORNIA
10 0 10 20 30 40 MILES
Figure 3.3-7
ISOPLUVIALS OF 5-YR 6-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH
NOAA ATLAS 2, Volume XI
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Soil Conservation Service, Engineering Division
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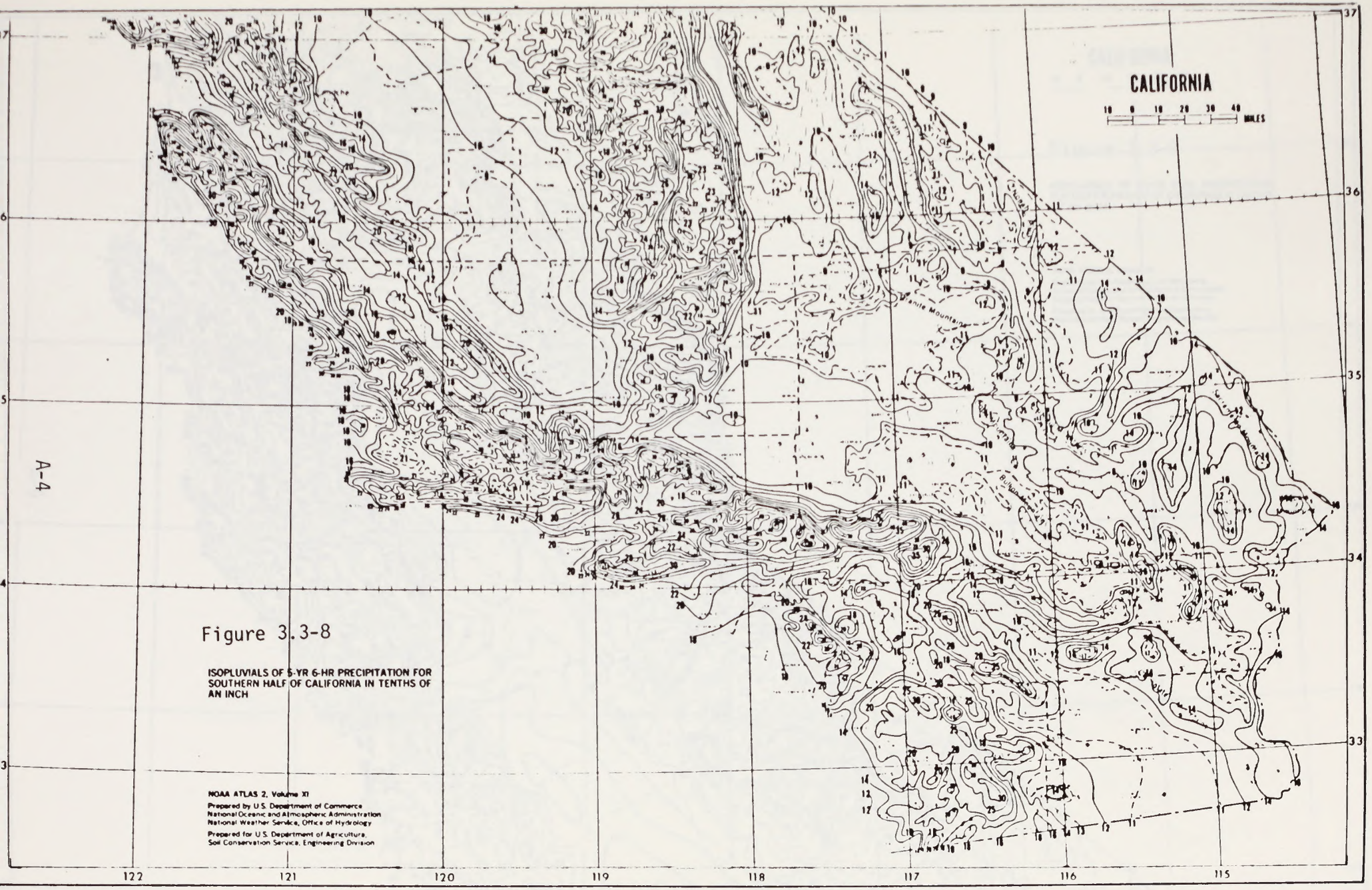


Figure 3.3-8

ISOPLUVIALS OF 5-YR 6-HR PRECIPITATION FOR SOUTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

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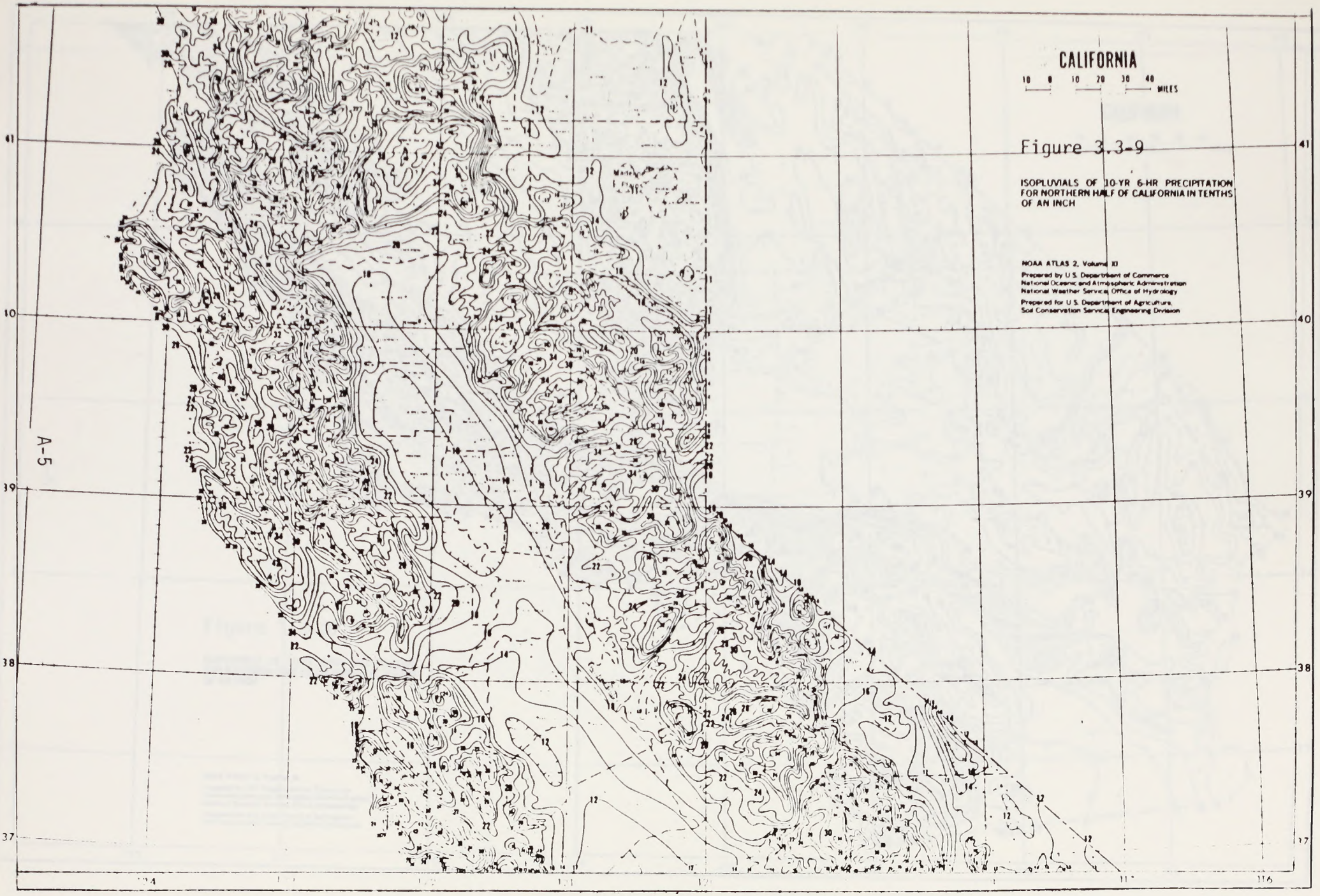


Figure 3.3-9

ISOPLUVIALS OF 10-YR 6-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

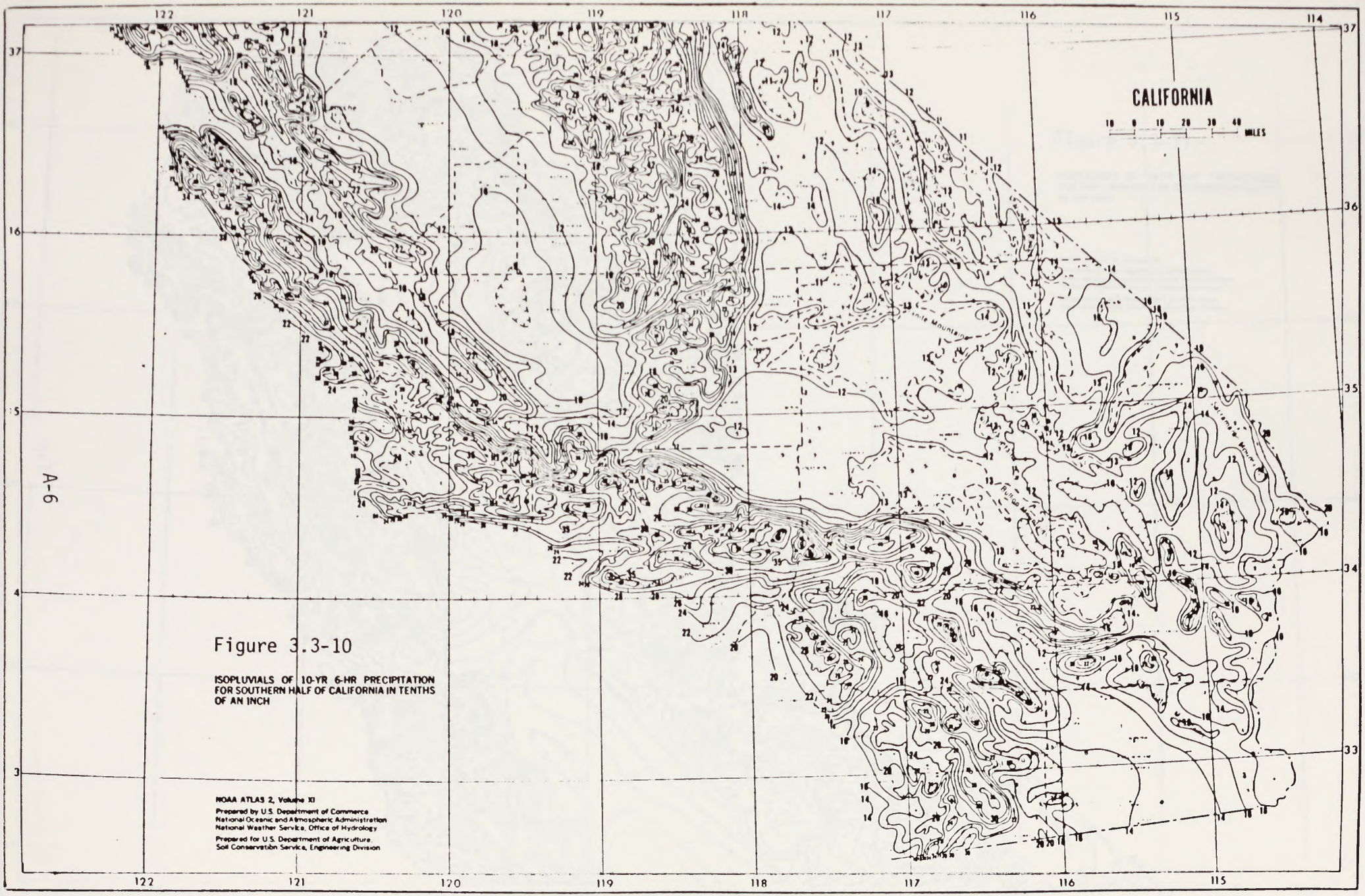


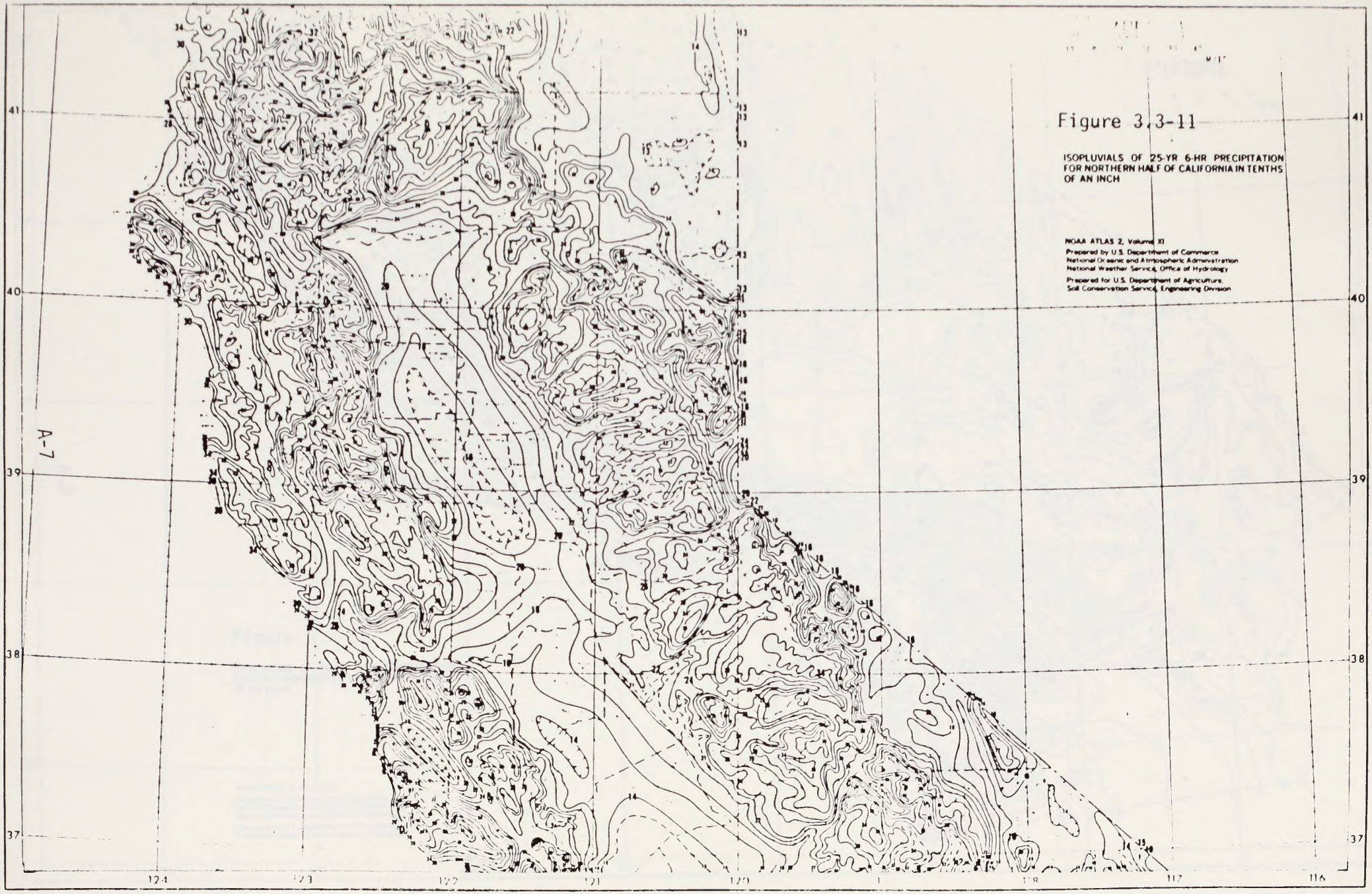
Figure 3.3-10

ISOPLUVIALS OF 10-YR 6-HR PRECIPITATION FOR SOUTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

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Figure 3.3-11
ISOPLUVIALS OF 25-YR 6-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH
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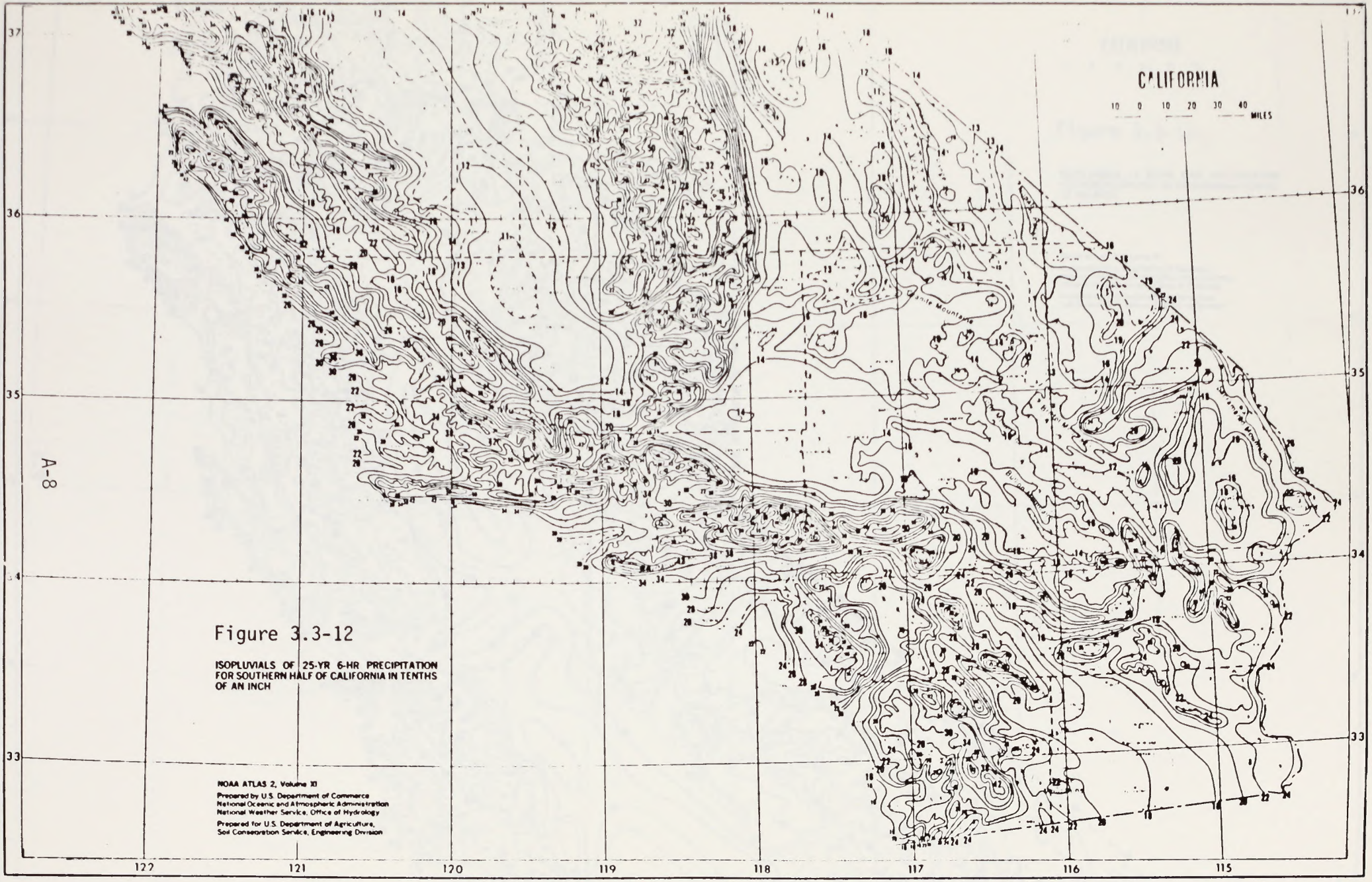
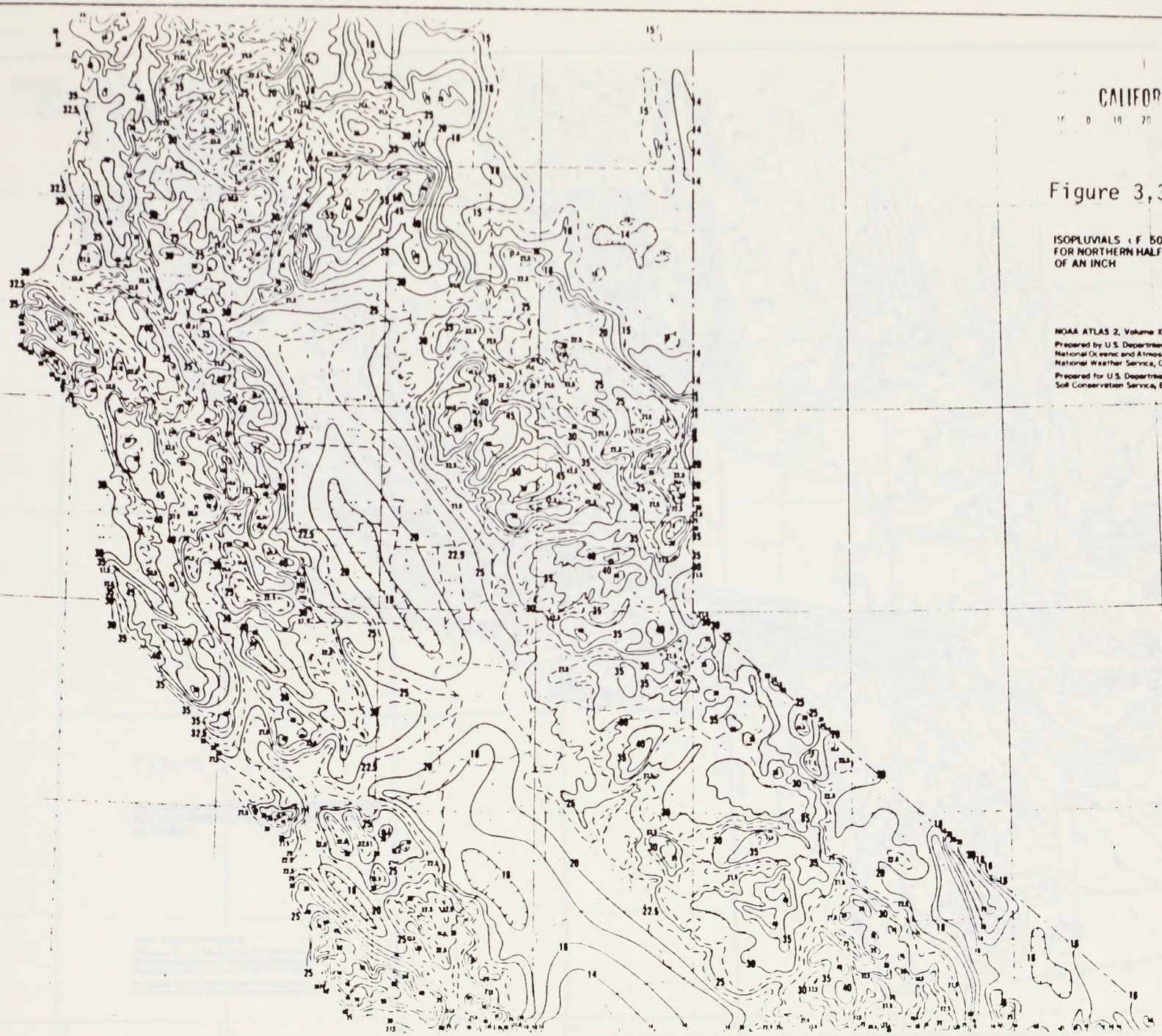


Figure 3.3-12

ISOPLUVIALS OF 25-YR 6-HR PRECIPITATION FOR SOUTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH


CALIFORNIA
MILES
Figure 3.3-13
ISOPLUVIALS OF 50-YR 6-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH
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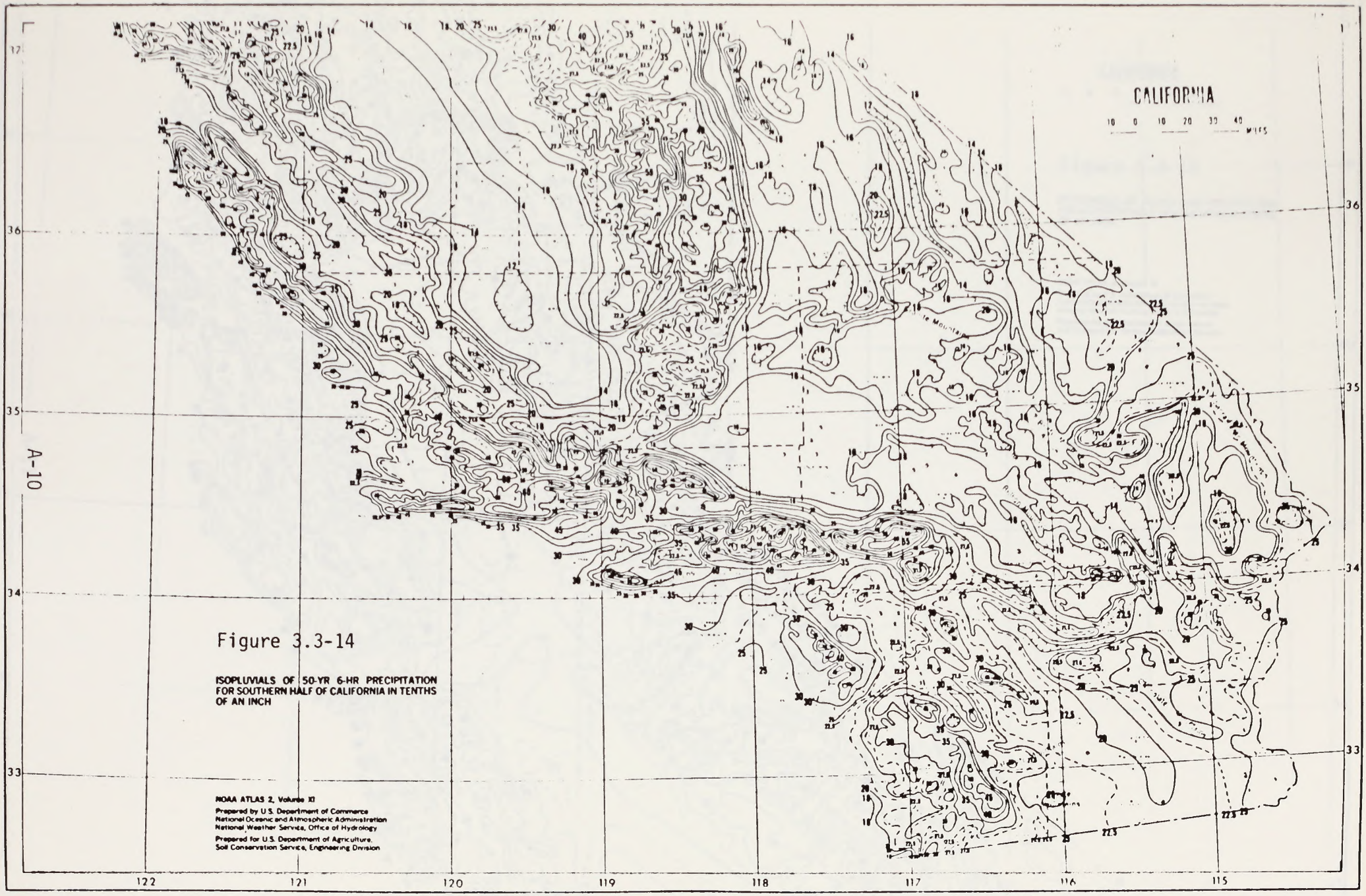


Figure 3.3-14

ISOPLUVIALS OF 50-YR 6-HR PRECIPITATION FOR SOUTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

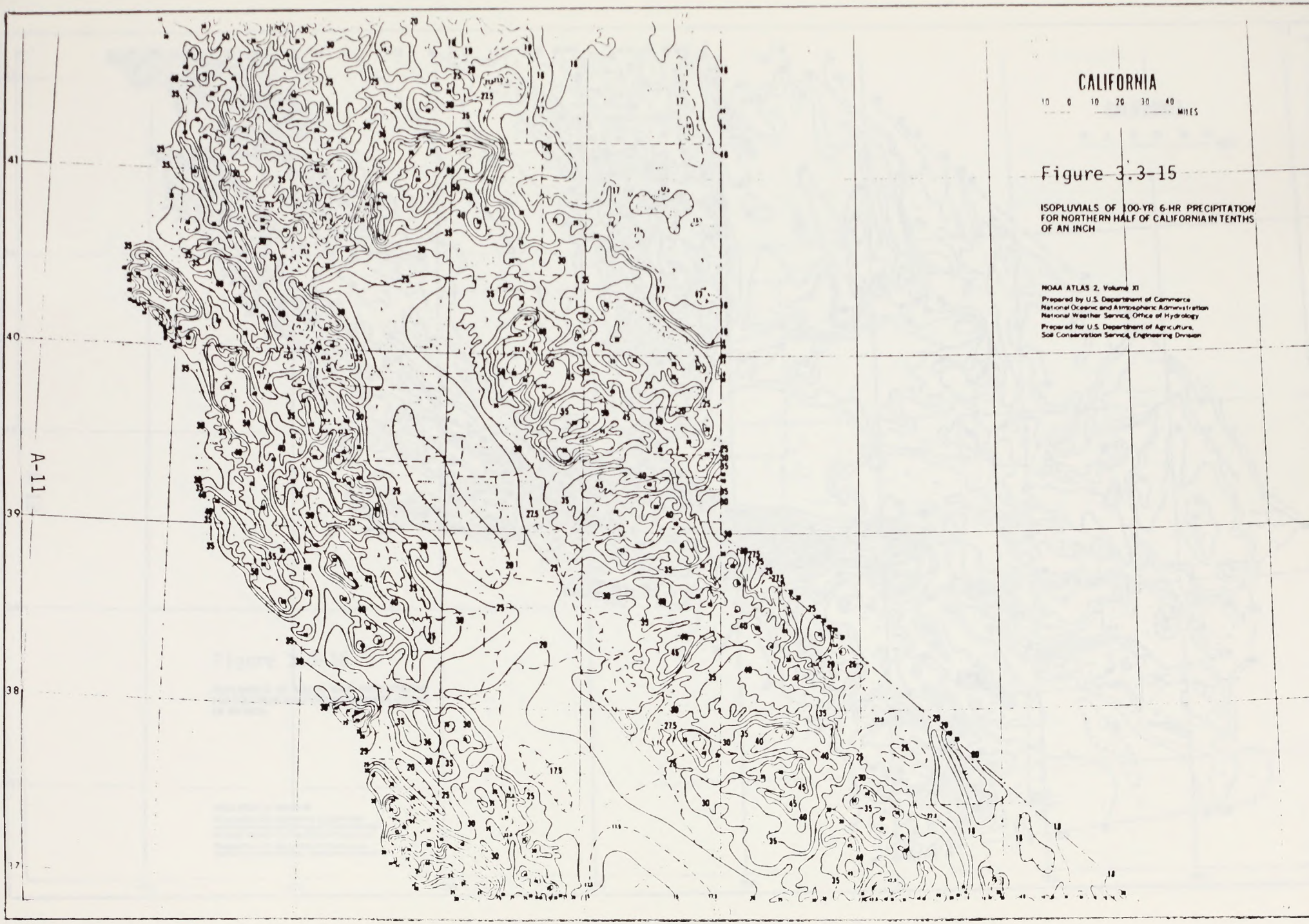


Figure 3.3-15

ISOPLUVIALS OF 100-YR 6-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

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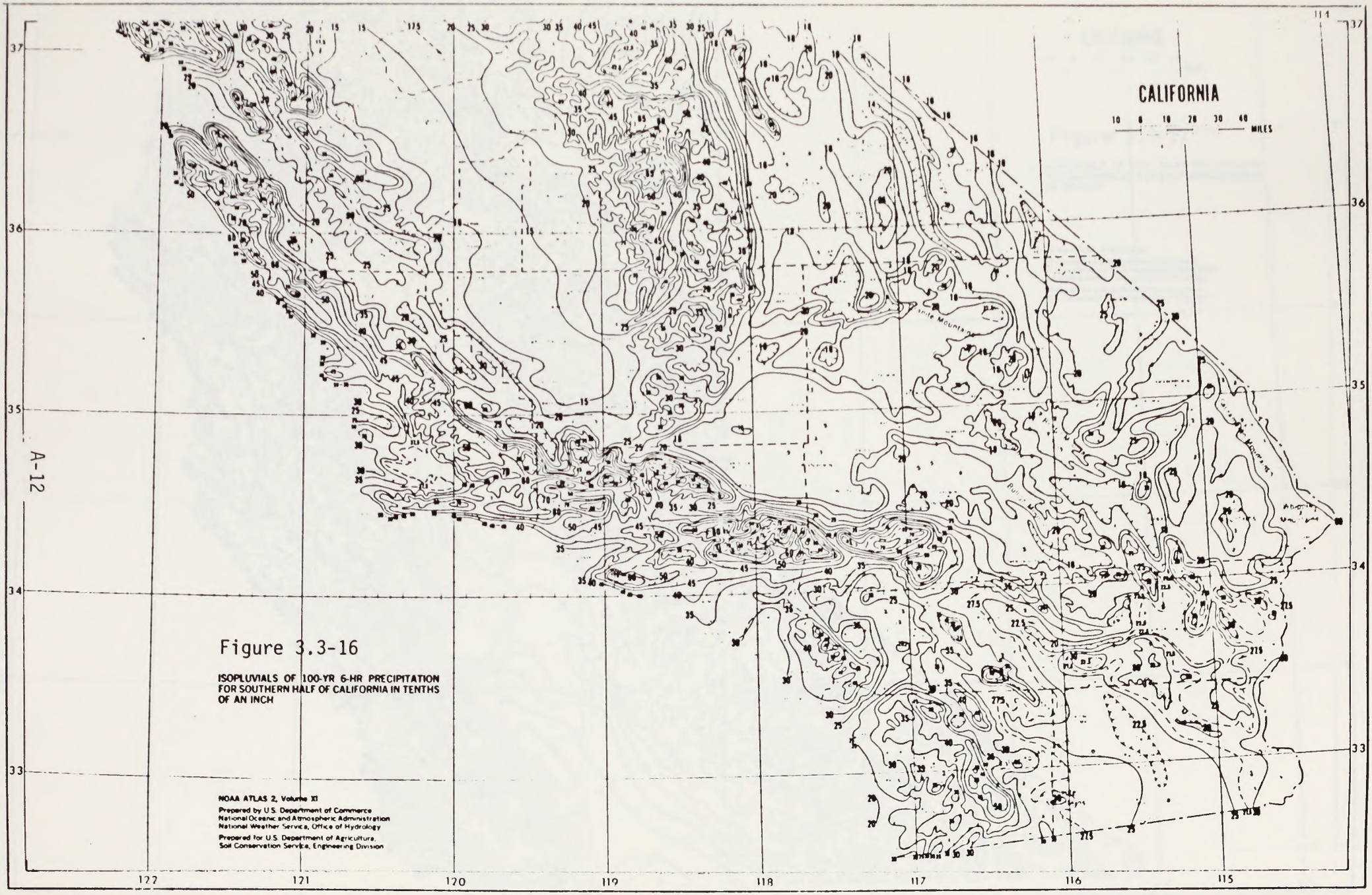


Figure 3.3-16

ISOPLUVIALS OF 100-YR 6-HR PRECIPITATION FOR SOUTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

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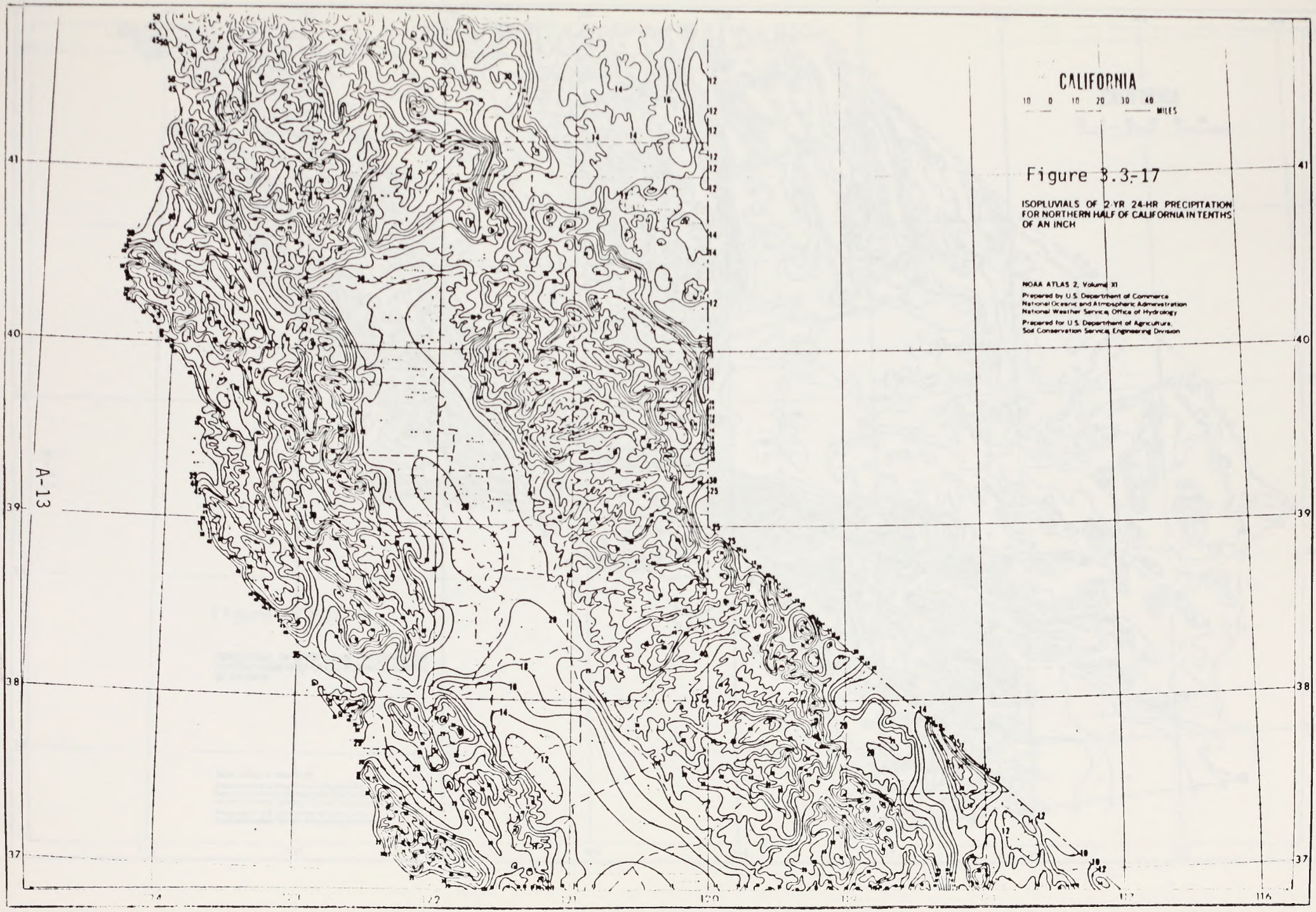


Figure 3.3-17

ISOPLUVIALS OF 2-YR 24-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH



A-14

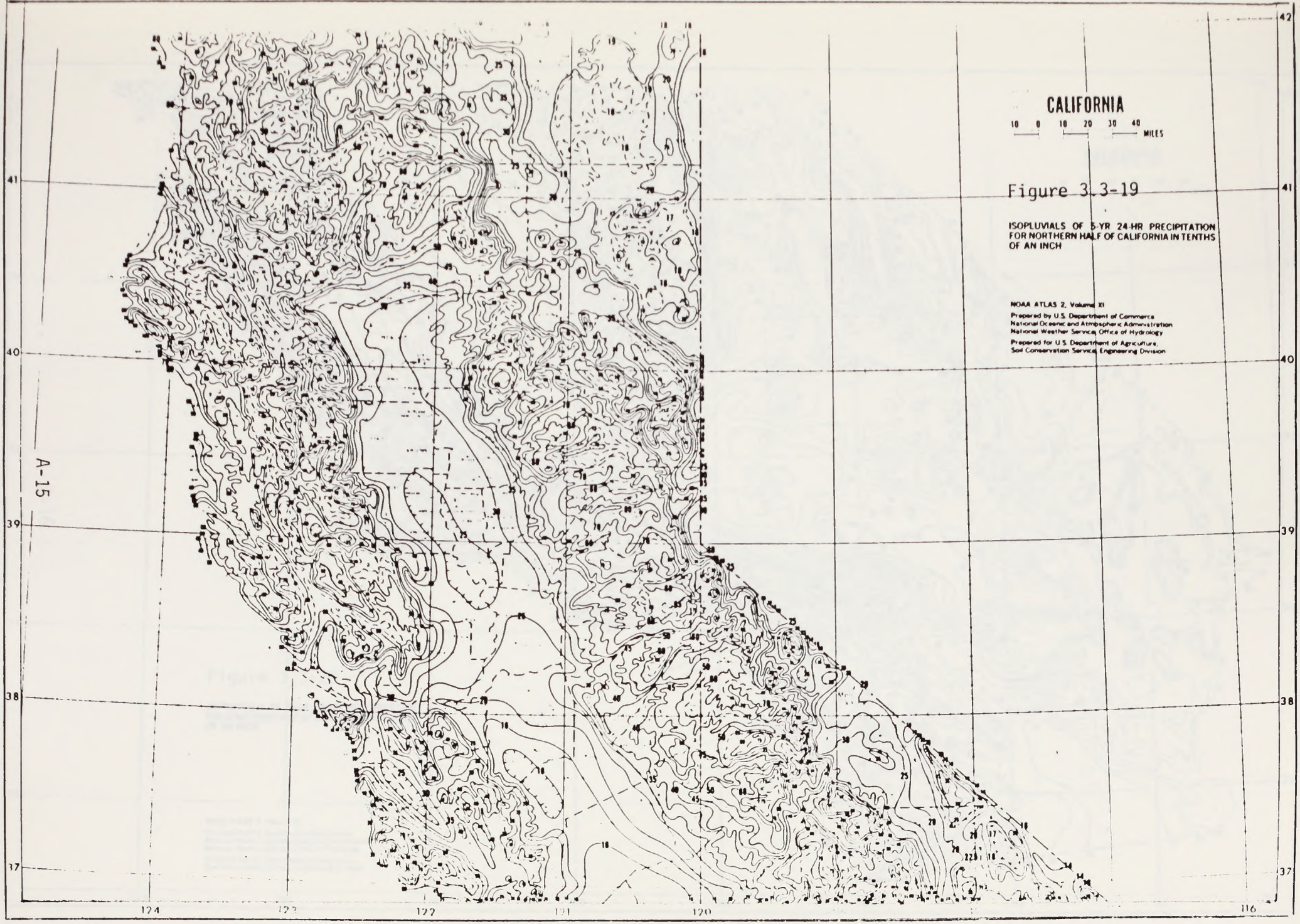
Figure 3.3-18

ISOPLUVIALS OF 2-YR 24-HR PRECIPITATION FOR SOUTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

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CALIFORNIA
10 0 10 20 30 40
MILES
Figure 3.3-19
ISOPLUVIALS OF 5-YR 24-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH
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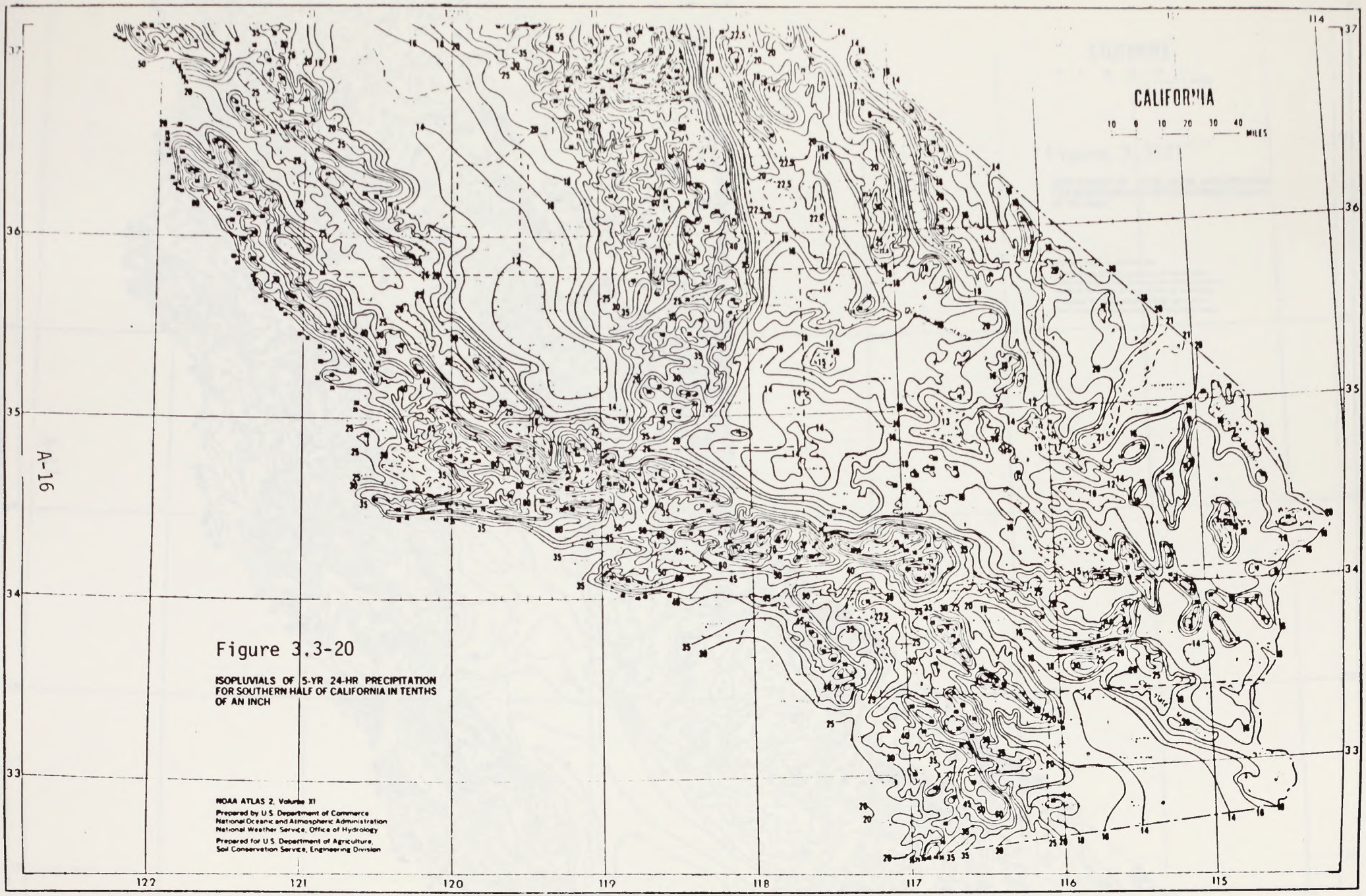


Figure 3.3-20

ISOPLUVIALS OF 5-YR 24-HR PRECIPITATION FOR SOUTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

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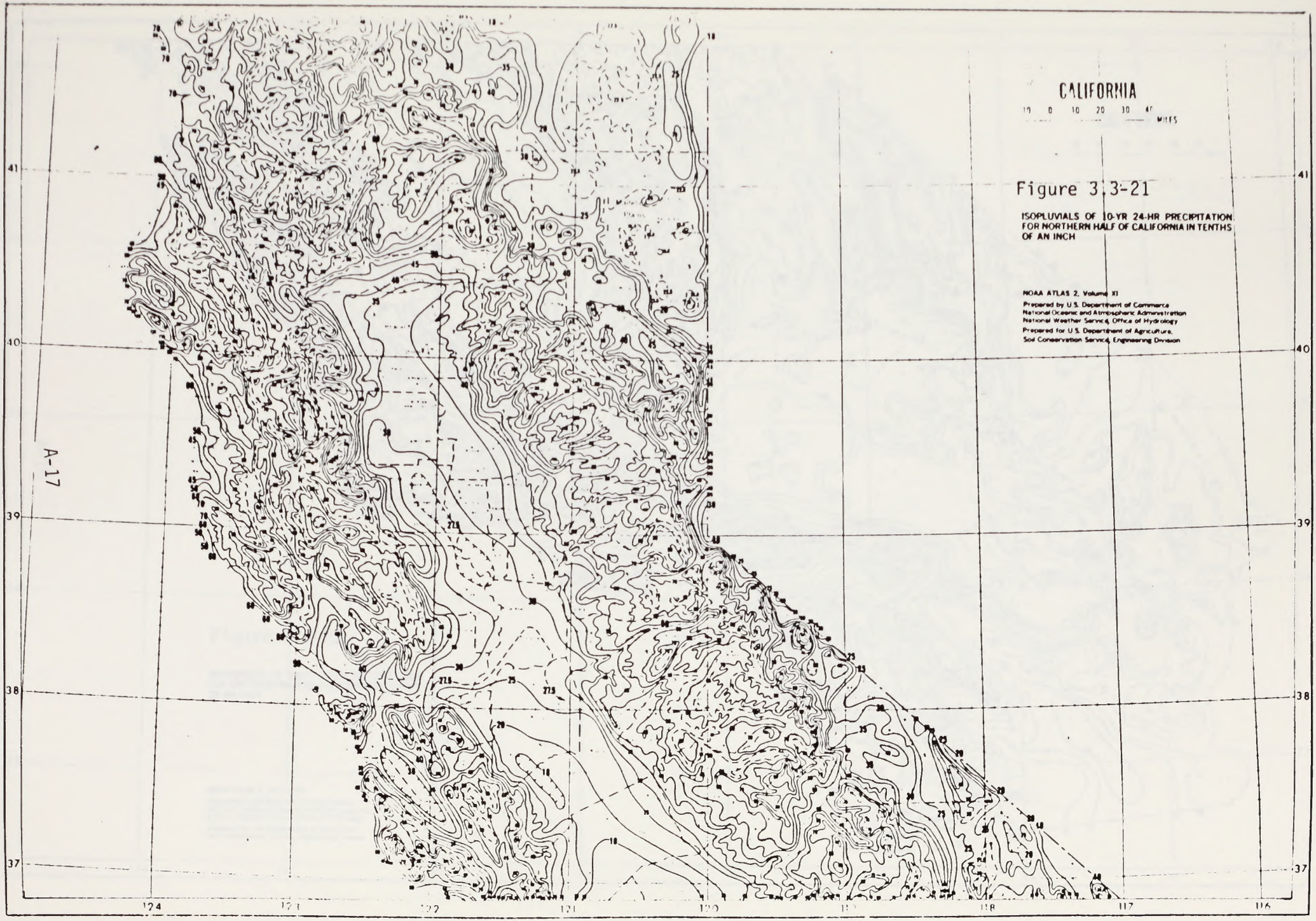

CALIFORNIA
MILES
Figure 3.3-21
ISOPLUVIALS OF 10-YR 24-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH
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41
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Figure 3.3-22

ISOPLUVIALS OF 10-YR 24-HR PRECIPITATION FOR SOUTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

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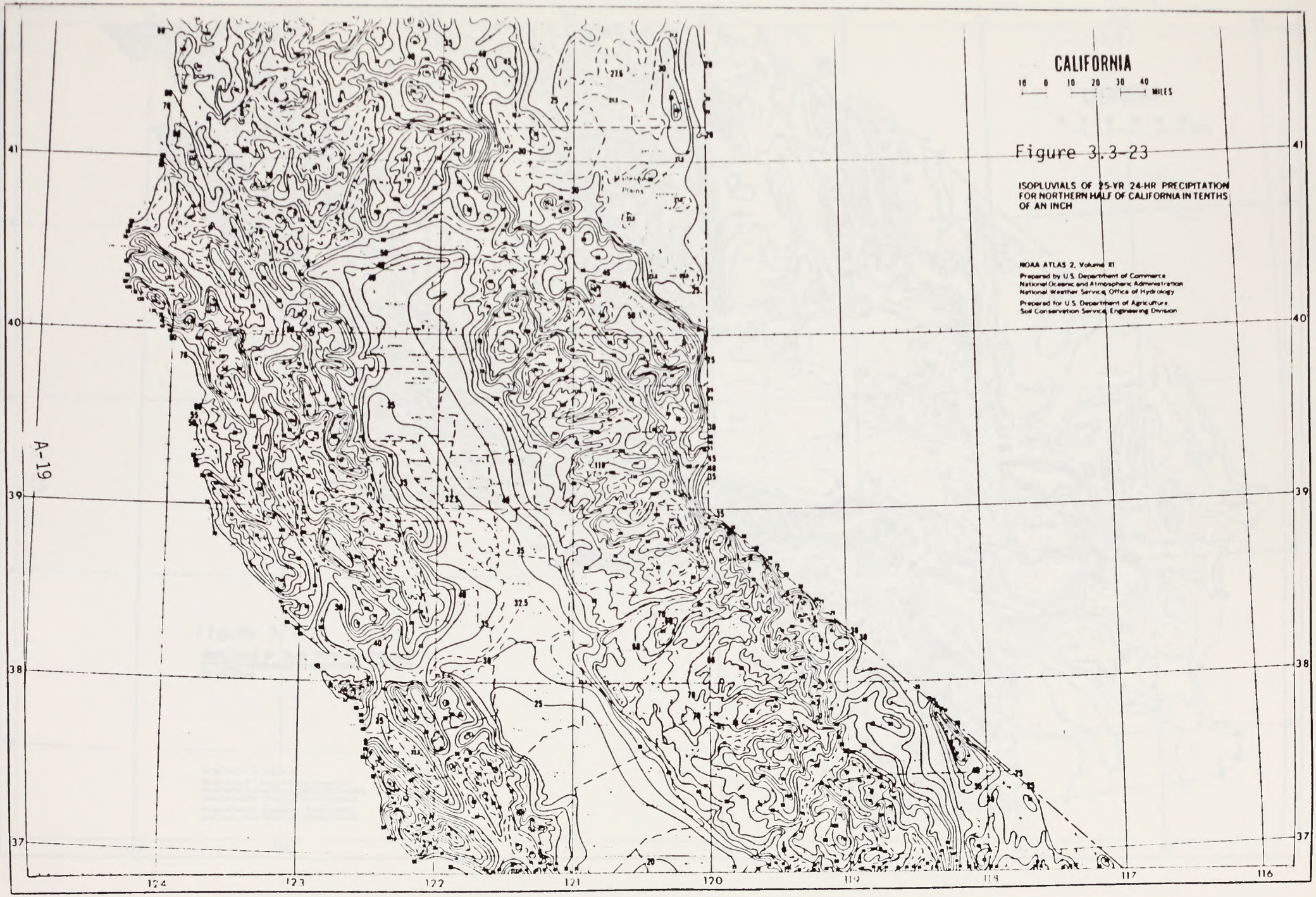

CALIFORNIA
10 0 10 20 30 40 MILES
Figure 3.3-23
ISOPLUVIALS OF 25-YR 24-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH
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Figure 3.3-24

ISOPLUVIALS OF 25-YR 24-HR PRECIPITATION FOR SOUTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

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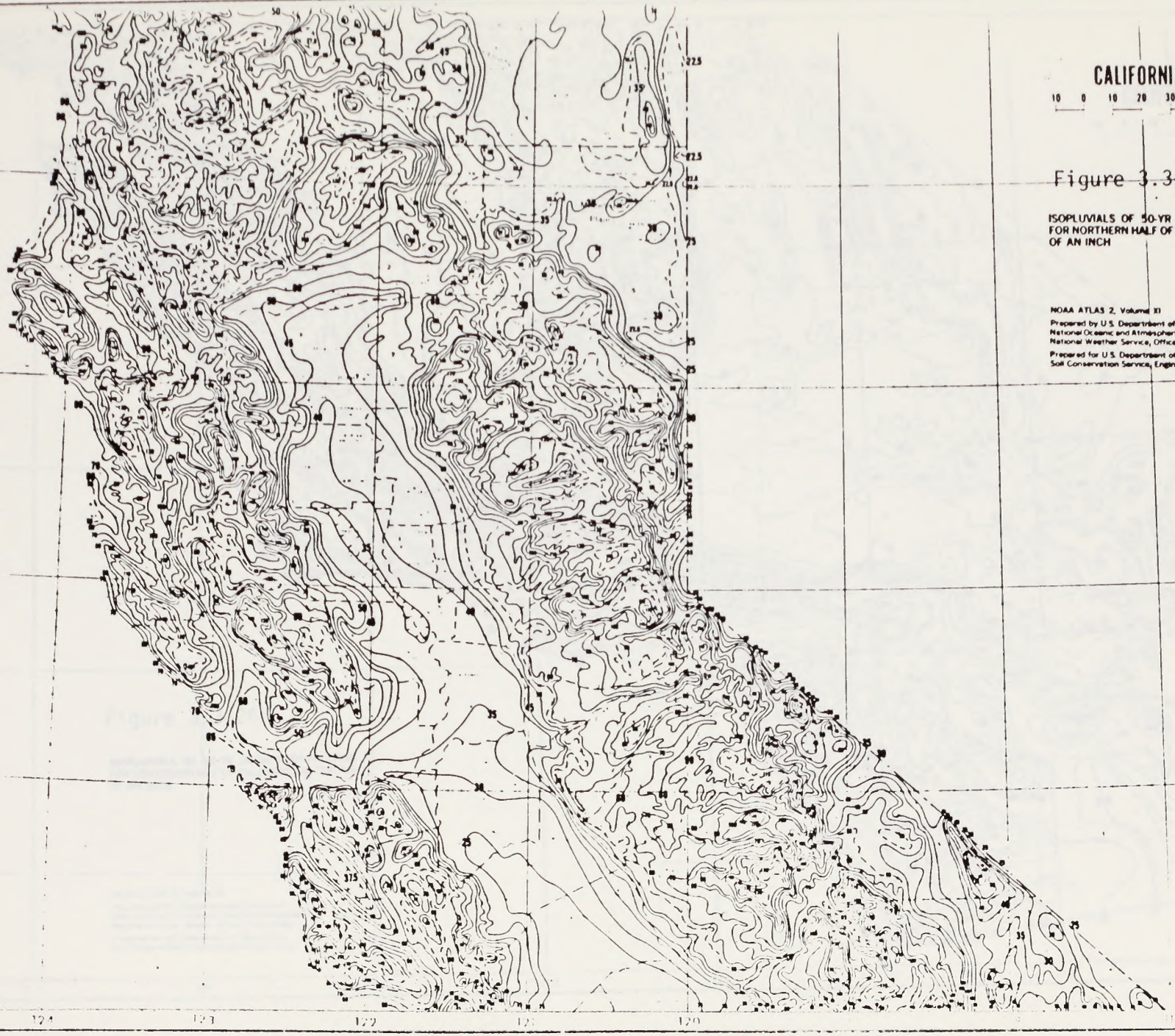


Figure 3.3-25

ISOPLUVIALS OF 50-YR 24-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

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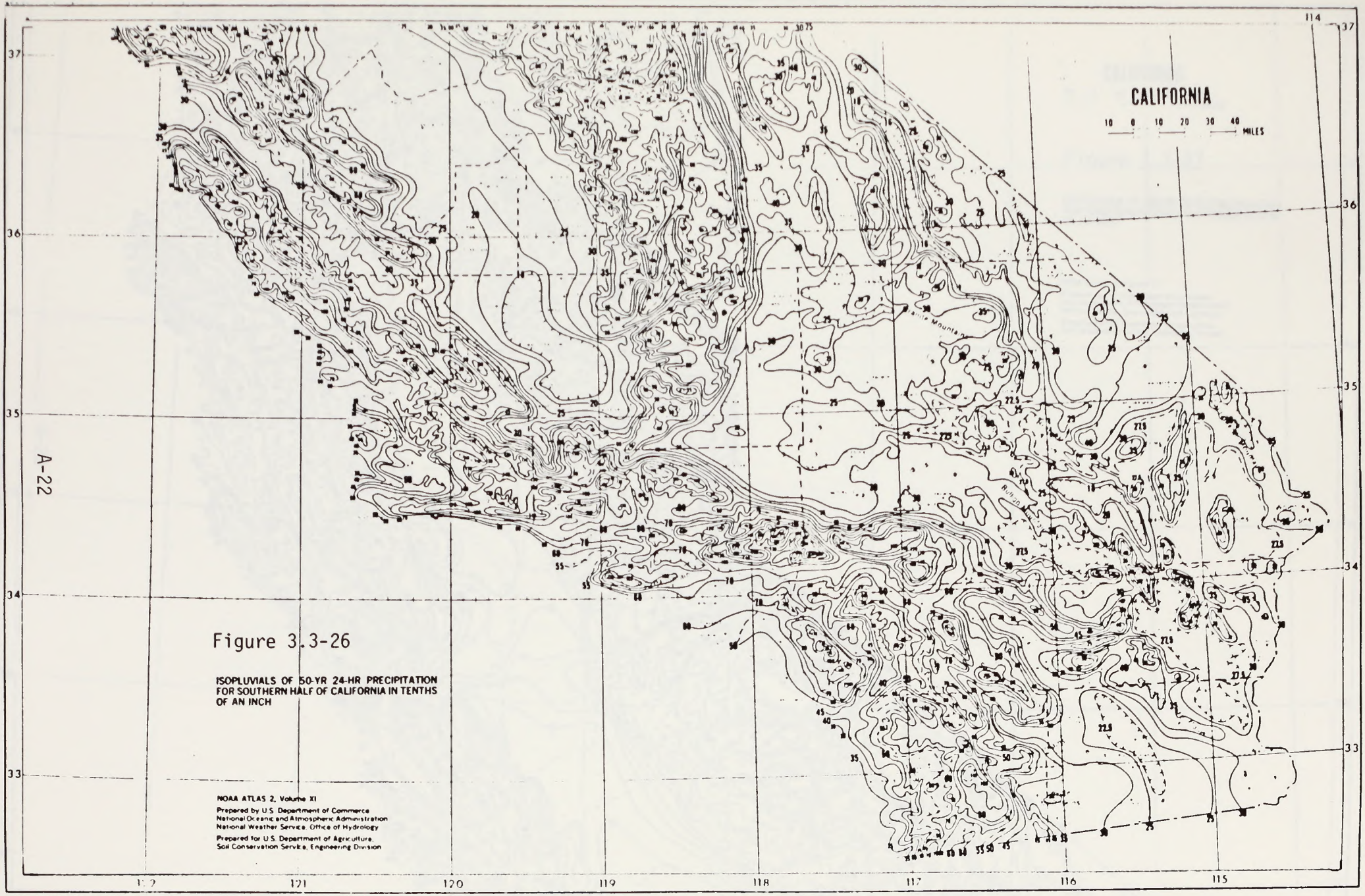


Figure 3.3-26

ISOPLUVIALS OF 50-YR 24-HR PRECIPITATION FOR SOUTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

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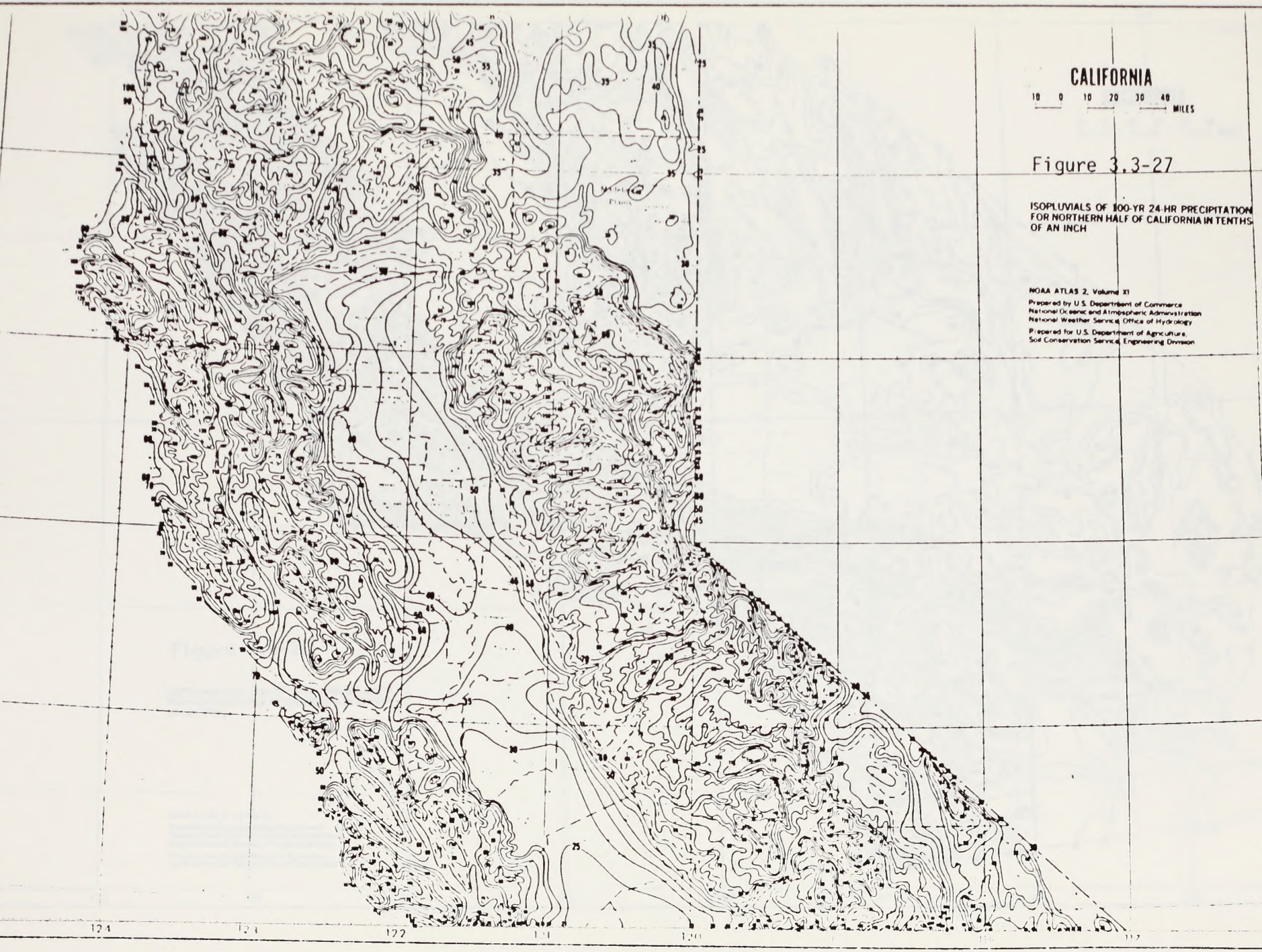

CALIFORNIA
10 0 10 20 30 40
MILES
Figure 3.3-27
ISOPLUVIALS OF 100-YR 24-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH
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124
122
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Figure 3.3-28

ISOPLUVIALS OF 100-YR 24-HR PRECIPITATION FOR SOUTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH

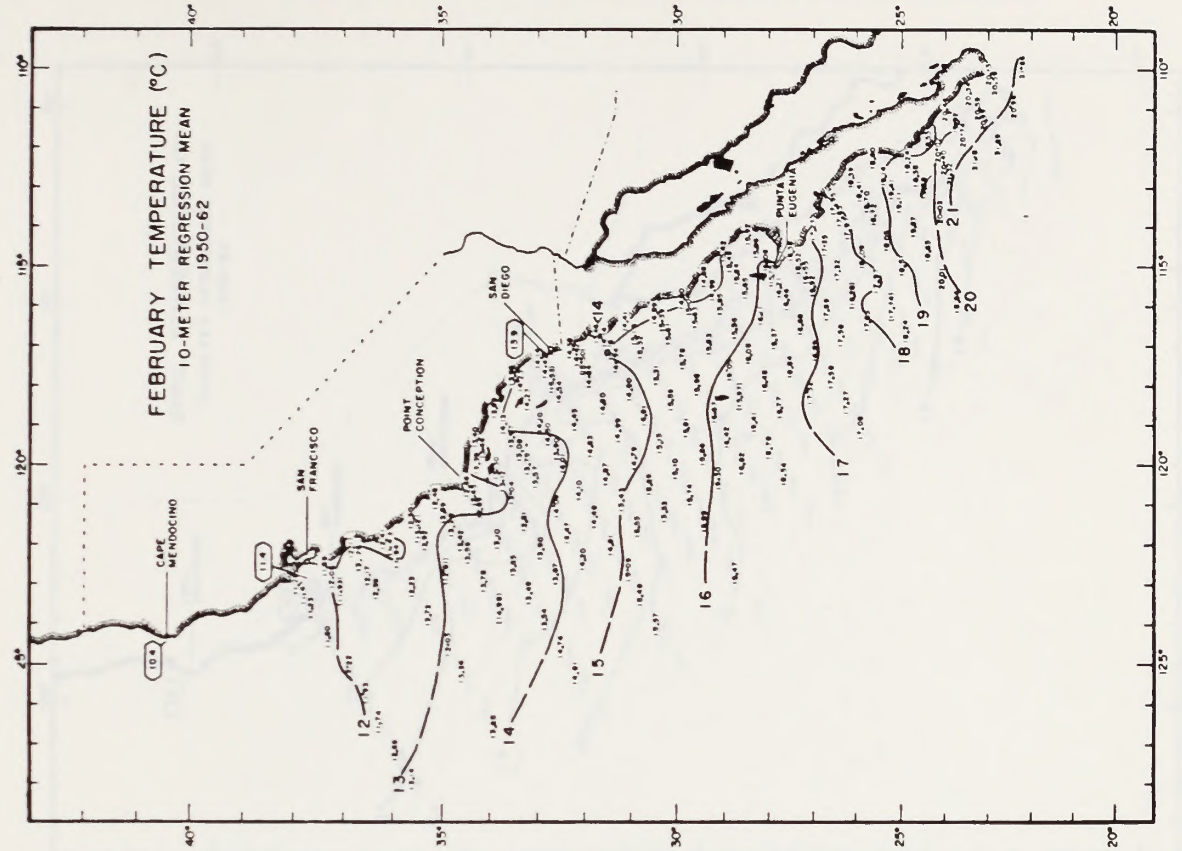
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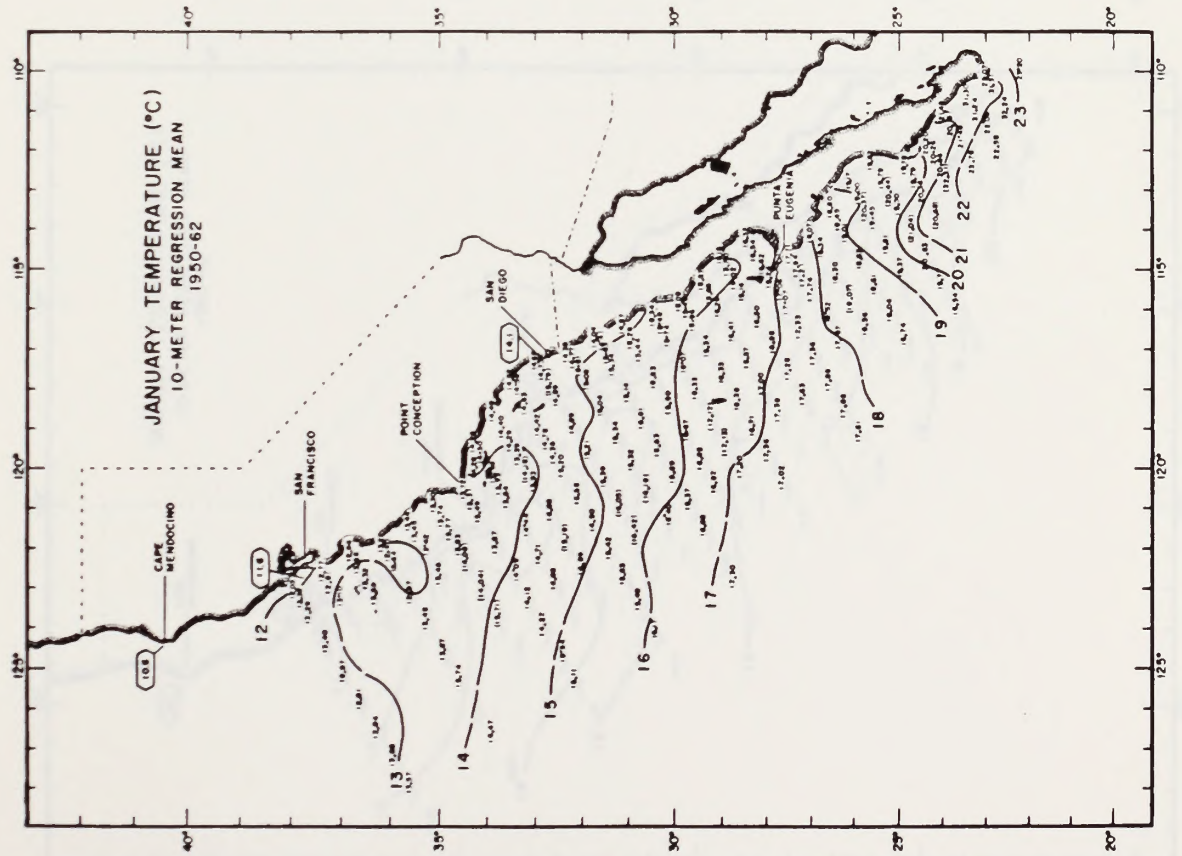
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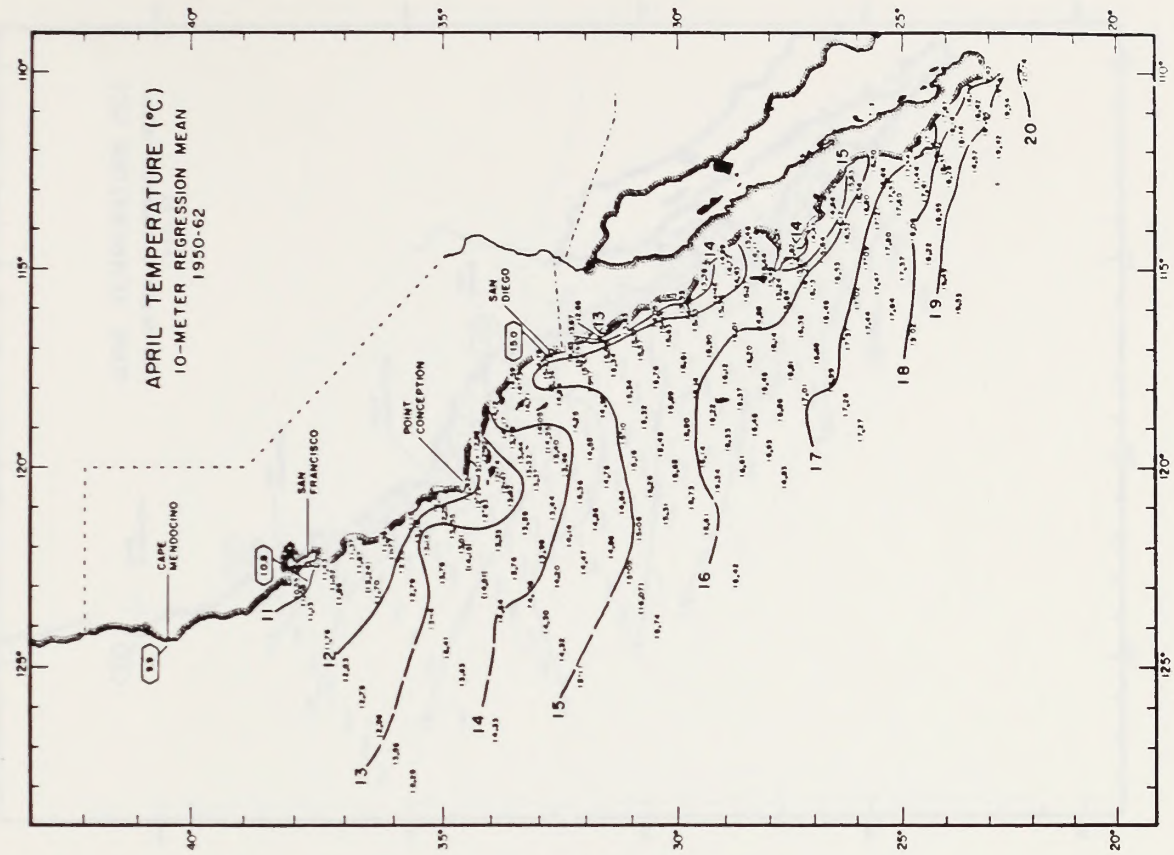
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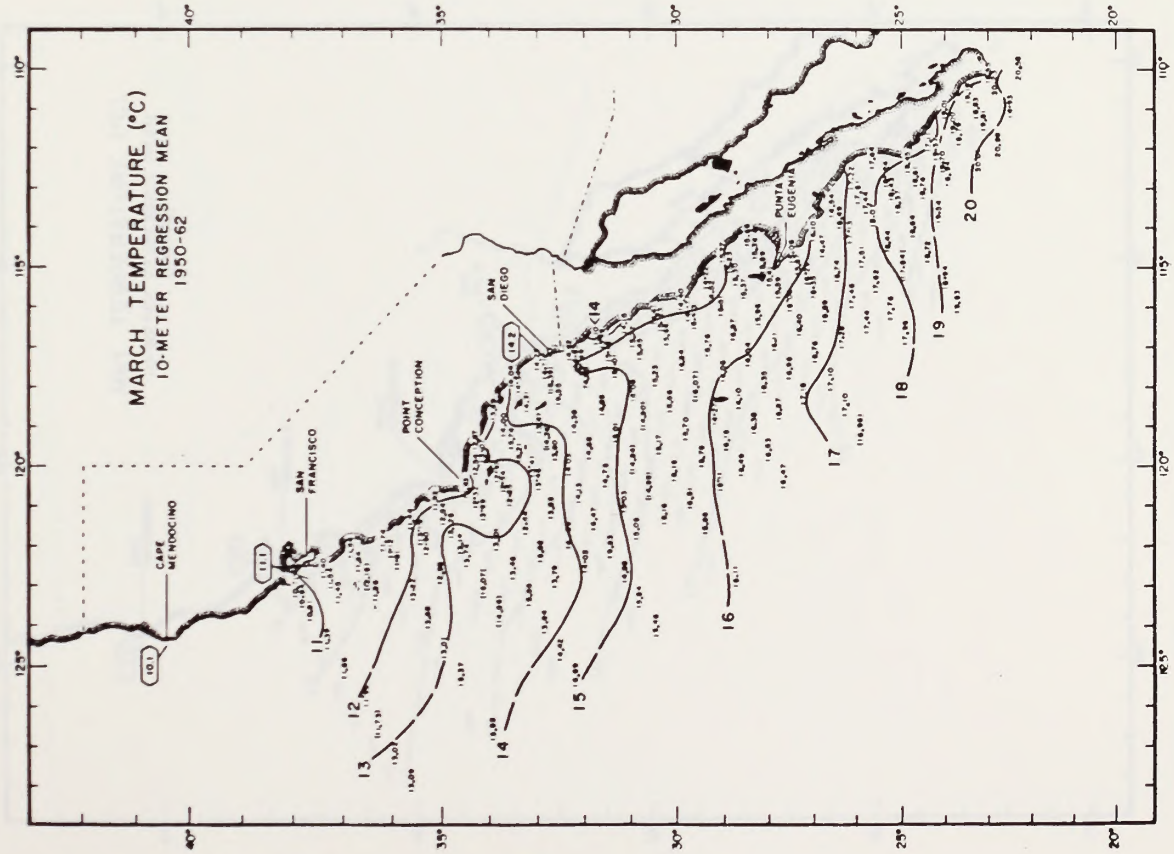
APPENDIX B

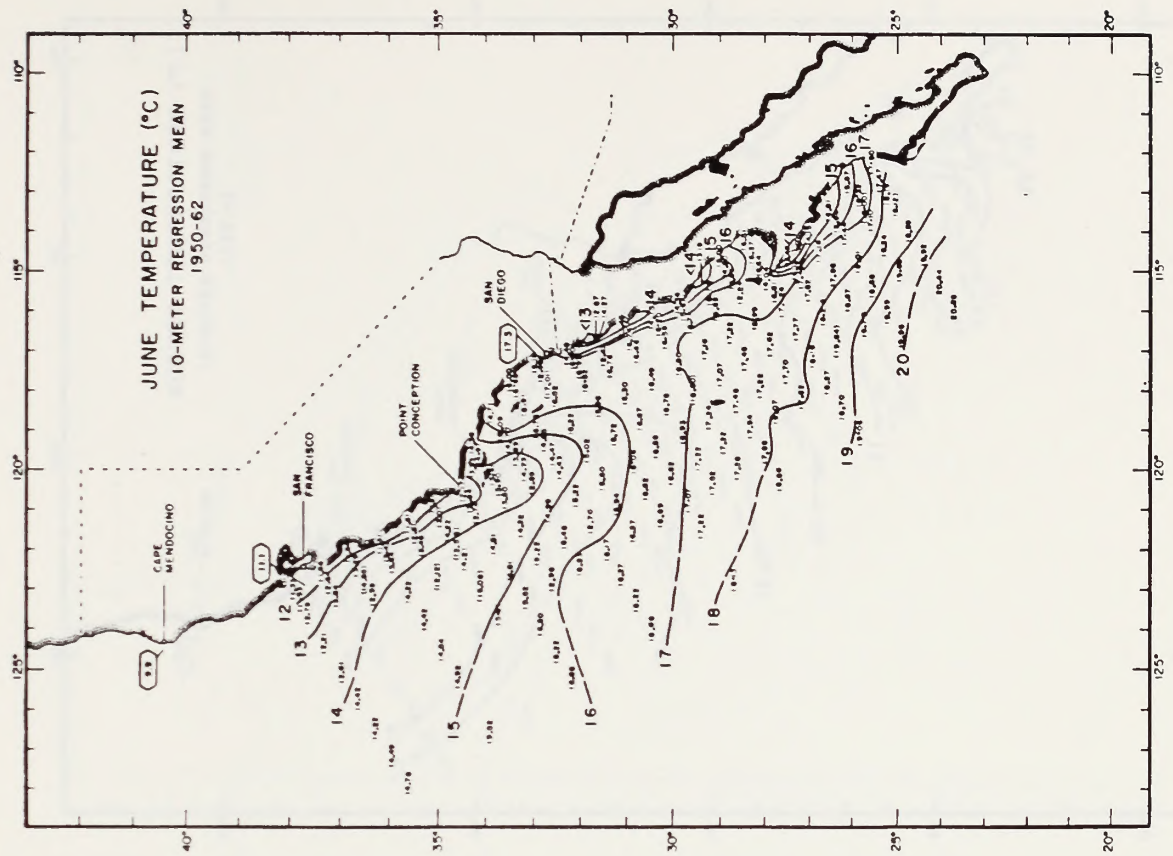
MONTHLY SEA SURFACE TEMPERATURES OFF COASTAL CALIFORNIA

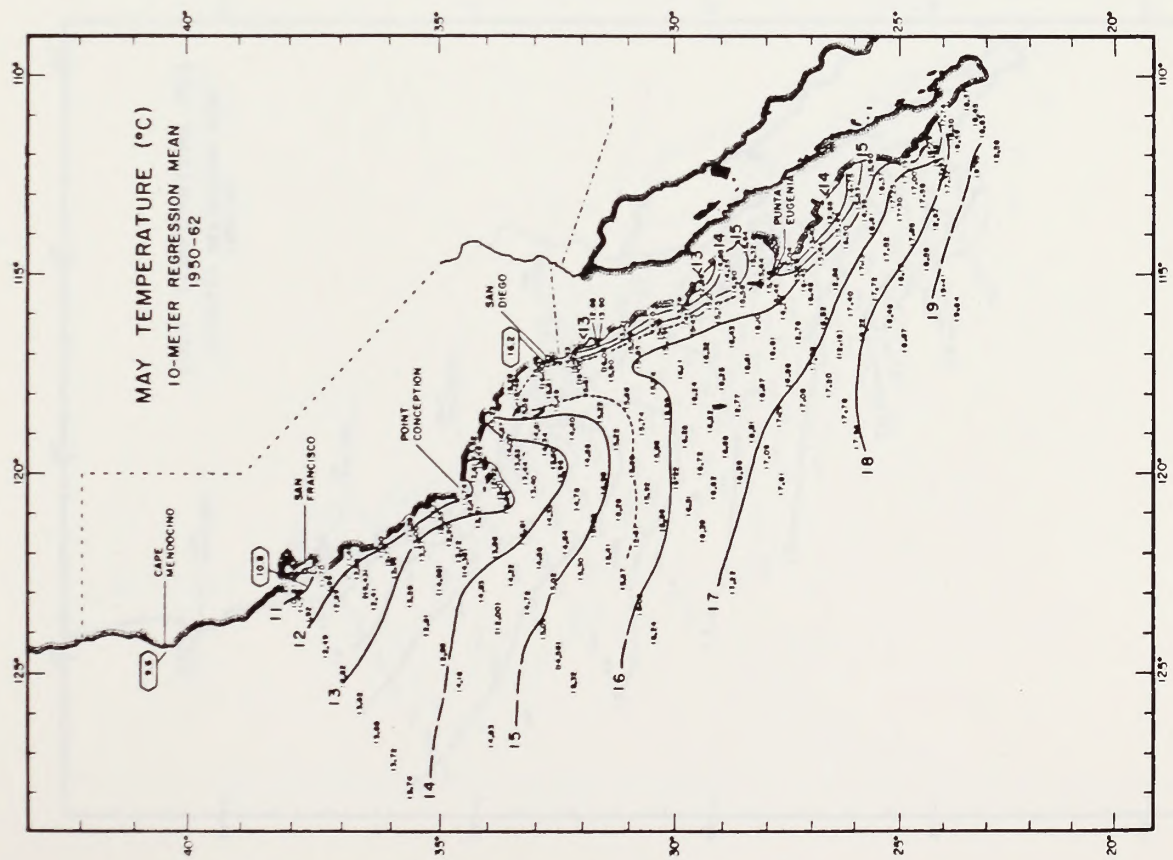

FEBRUARY TEMPERATURE (°C)
10-METER REGRESSION MEAN
1950-62
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA

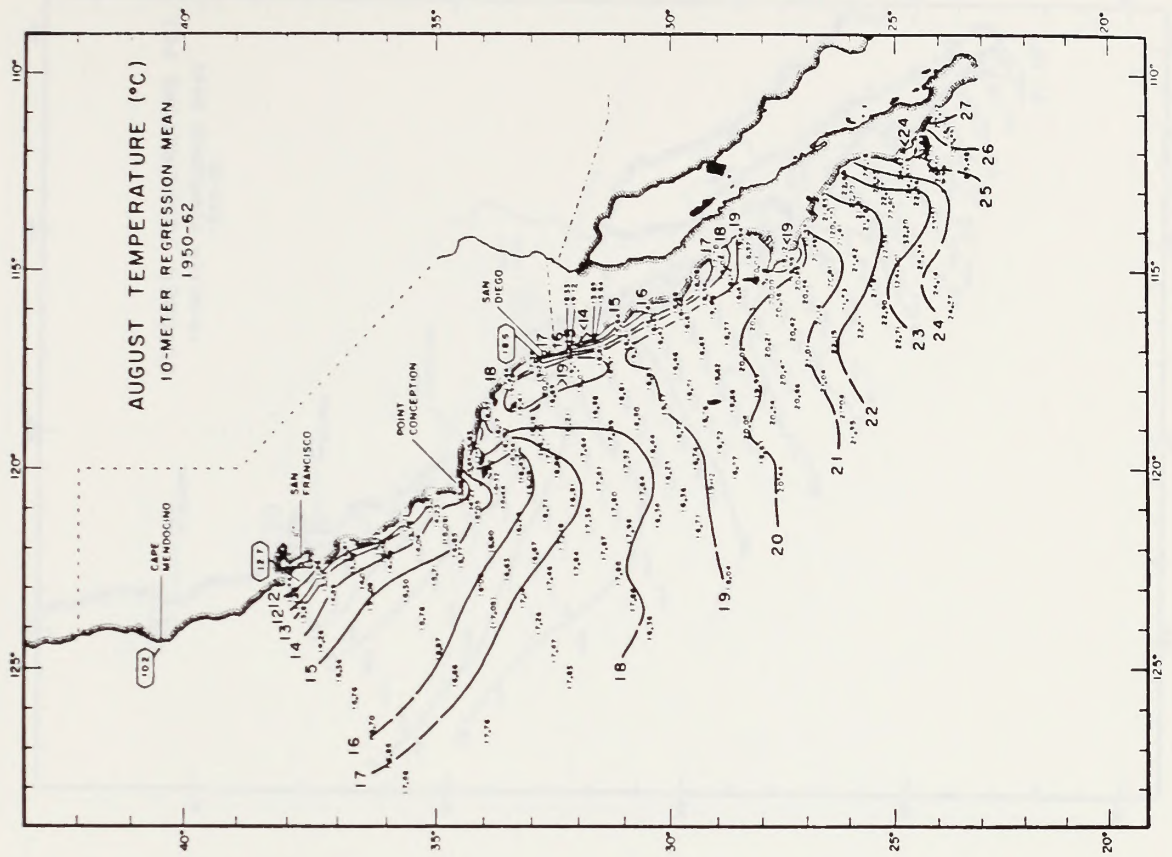

JANUARY TEMPERATURE (°C)
10-METER REGRESSION MEAN
1950-62
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA

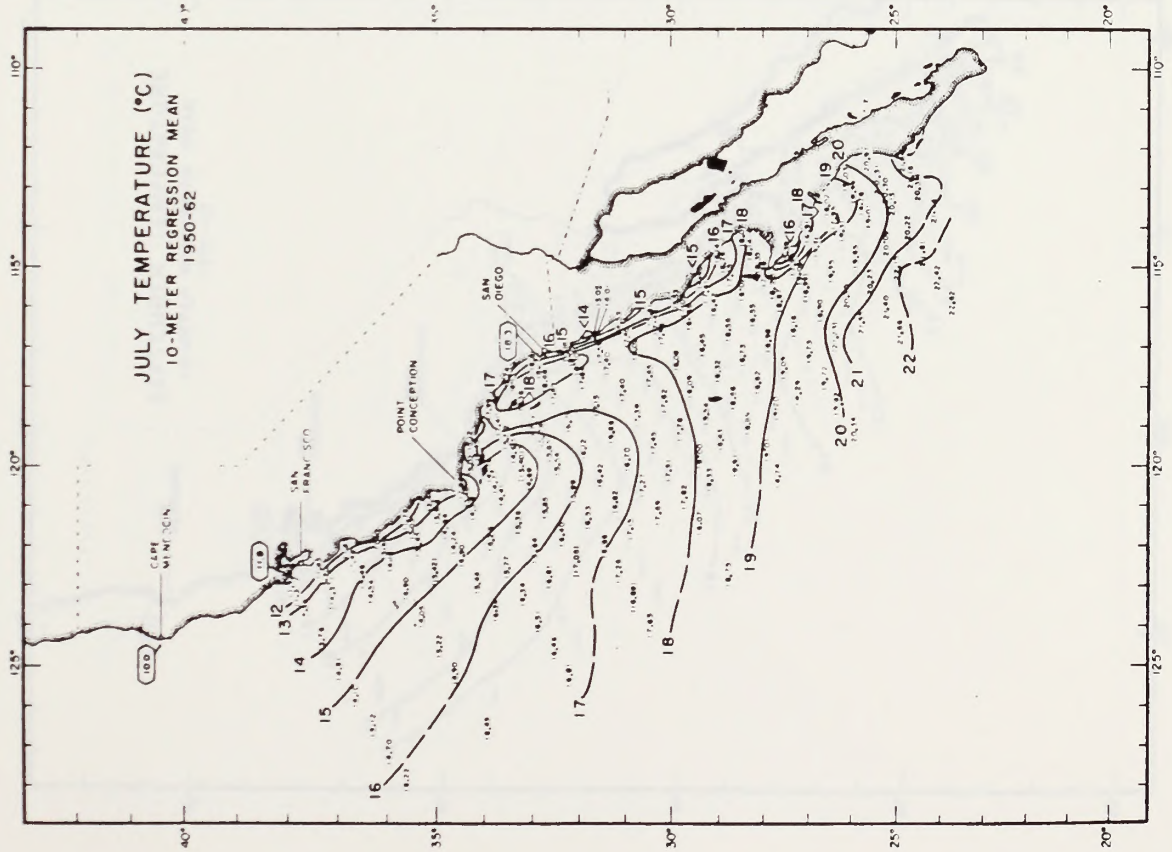

APRIL TEMPERATURE (°C)
10-METER REGRESSION MEAN
1950-62
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
40°
35°
30°
25°
20°
110°
115°
120°
125°

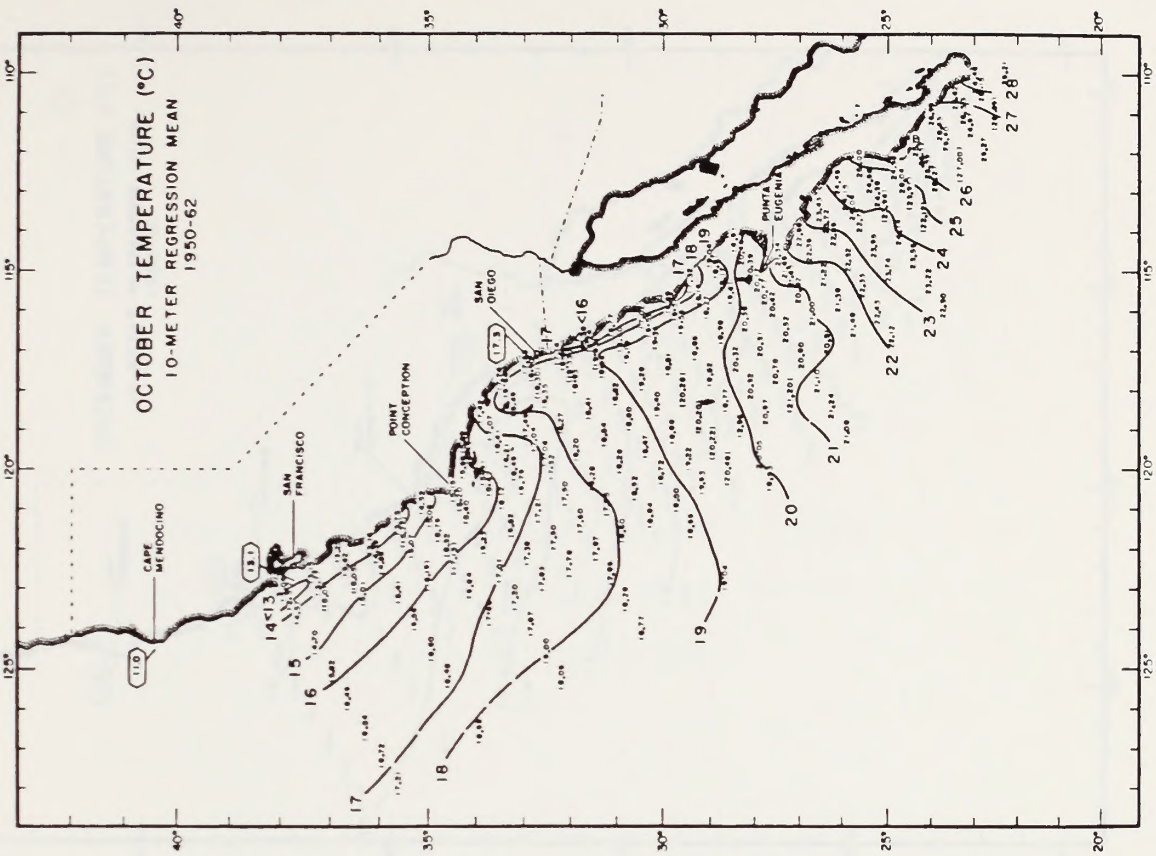

MARCH TEMPERATURE (°C)
10-METER REGRESSION MEAN
1950-62
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
40°
35°
30°
25°
20°
110°
115°
120°
125°

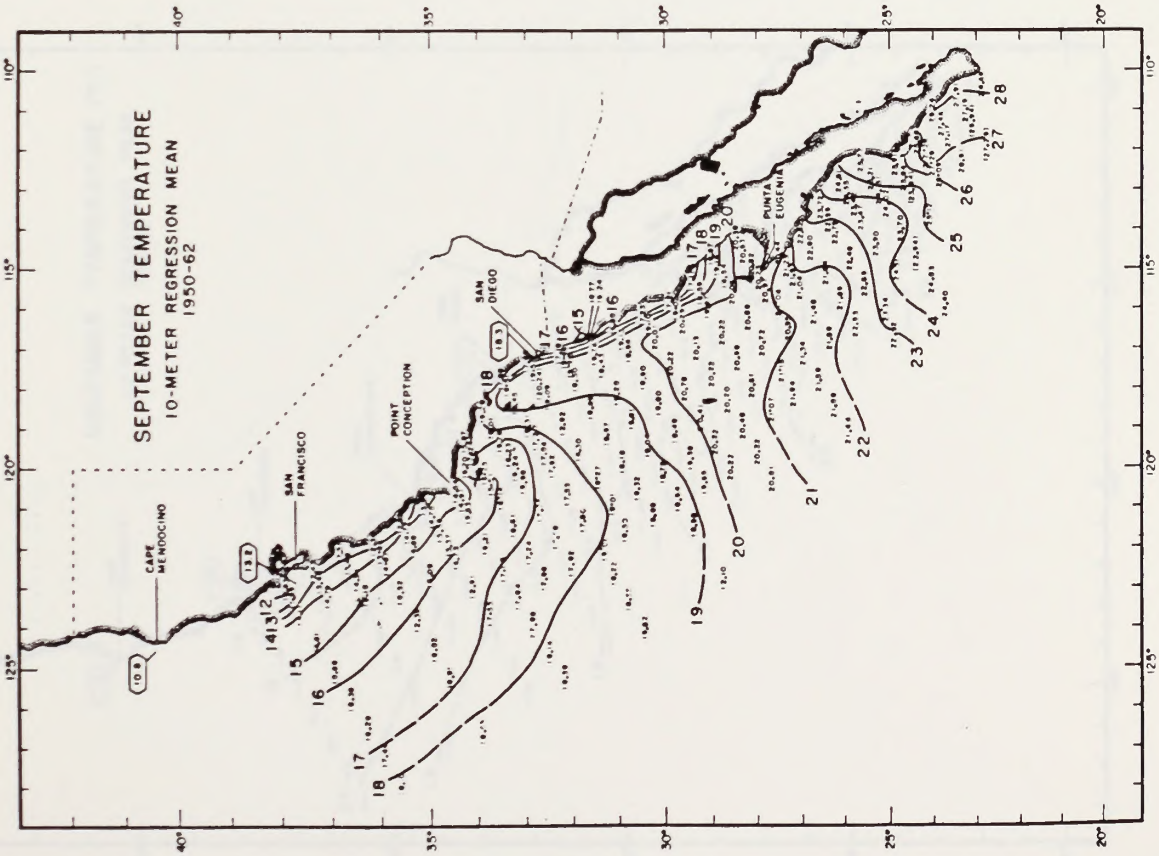

JUNE TEMPERATURE (°C)
10-METER REGRESSION MEAN
1950-62
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO

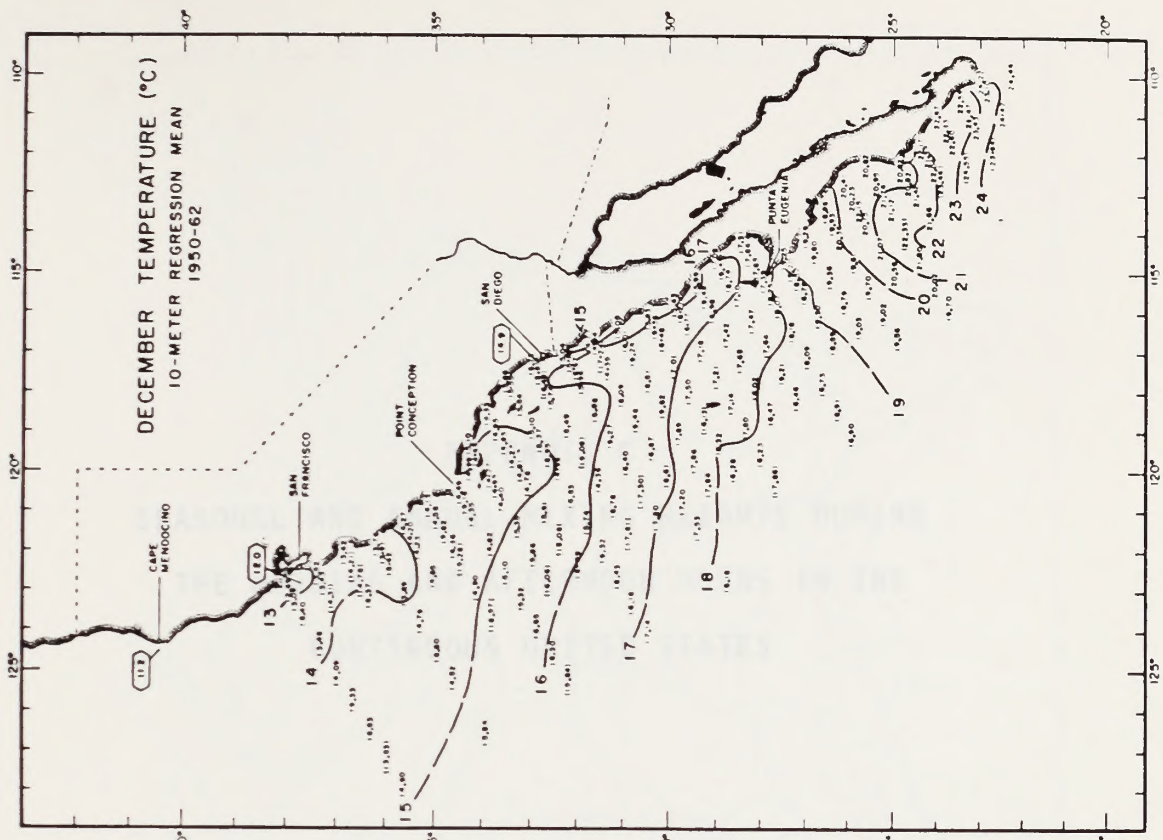

MAY TEMPERATURE (°C)
10-METER REGRESSION MEAN
1950-62
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA

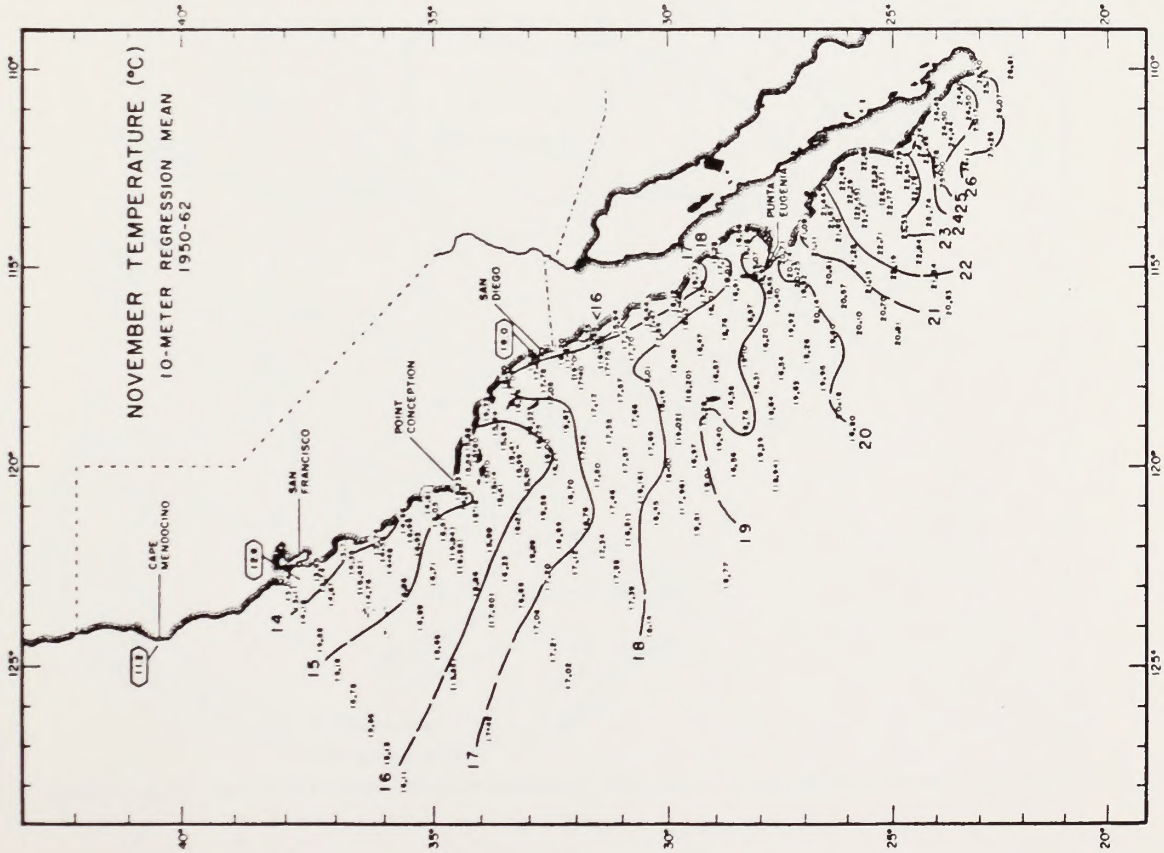

AUGUST TEMPERATURE (°C)
10-METER REGRESSION MEAN
1950-62
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO


JULY TEMPERATURE (°C)
10-METER REGRESSION MEAN
1950-62
POINT CONCEPTION
SAN DIEGO


OCTOBER TEMPERATURE (°C)
10-METER REGRESSION MEAN
1950-62
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA

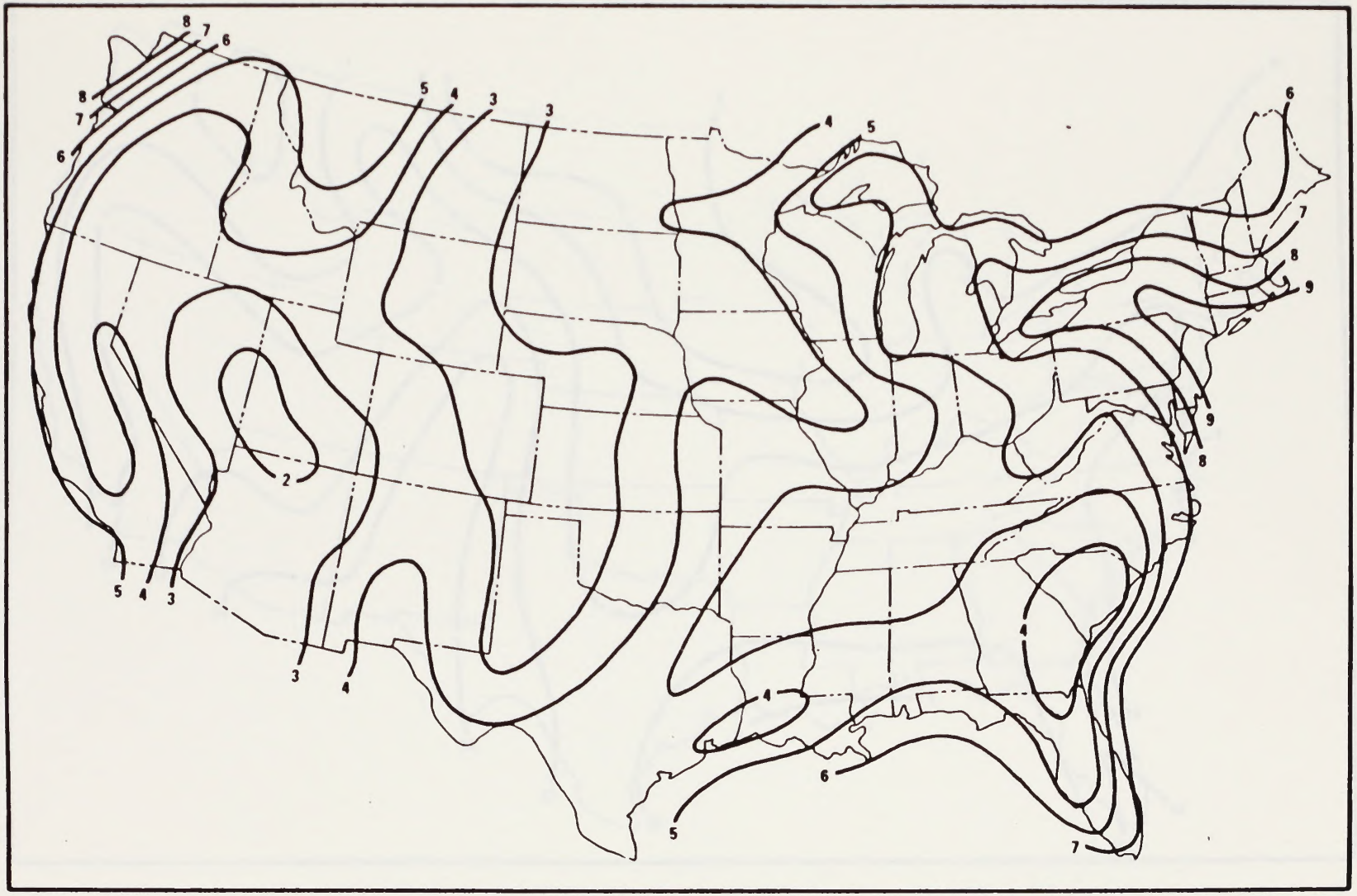

SEPTEMBER TEMPERATURE
10-METER REGRESSION MEAN
1950-62
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA


DECEMBER TEMPERATURE (°C)
10-METER REGRESSION MEAN
1950-62
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA

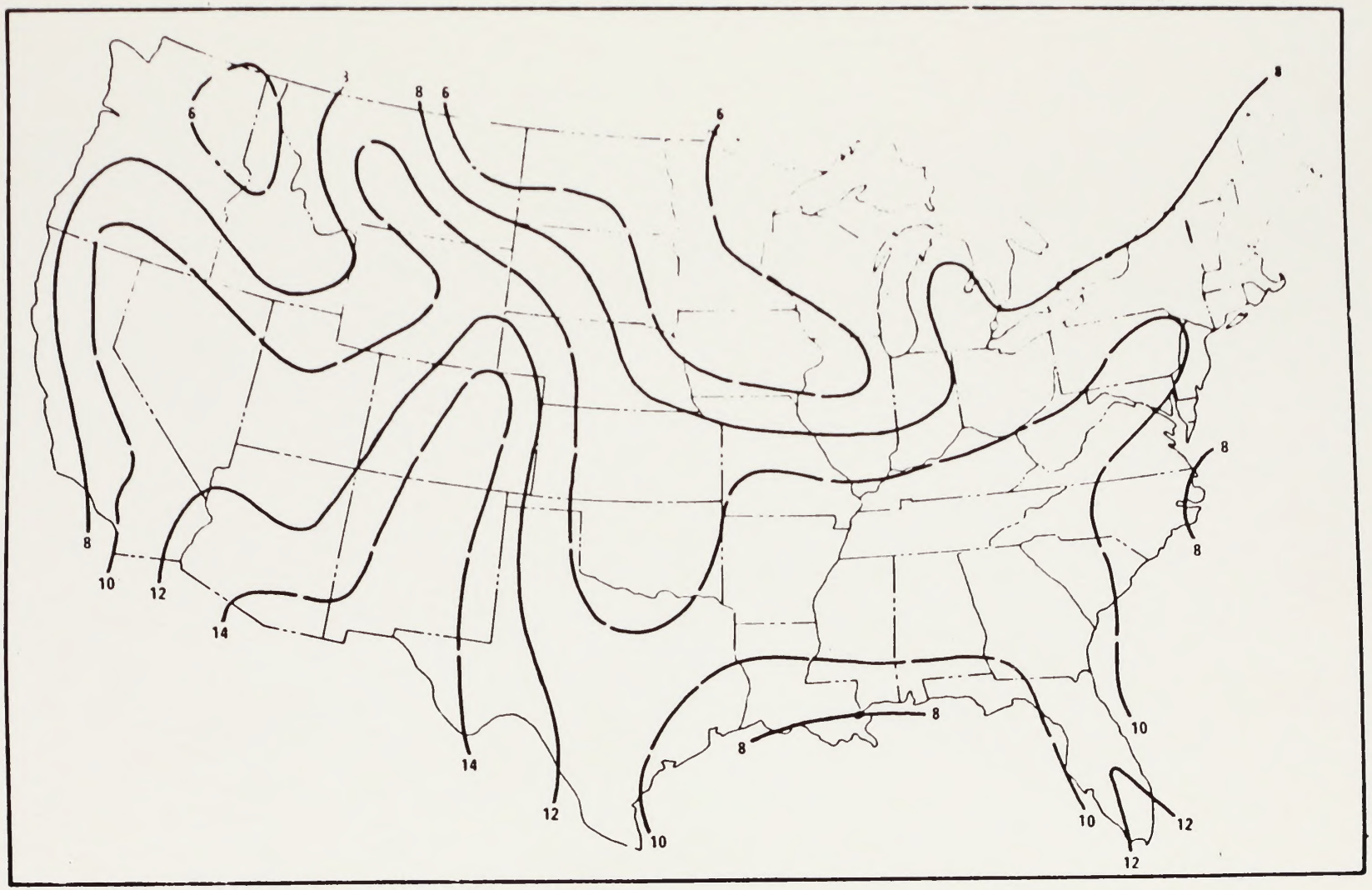

NOVEMBER TEMPERATURE (°C)
10-METER REGRESSION MEAN
1950-62
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA

APPENDIX C

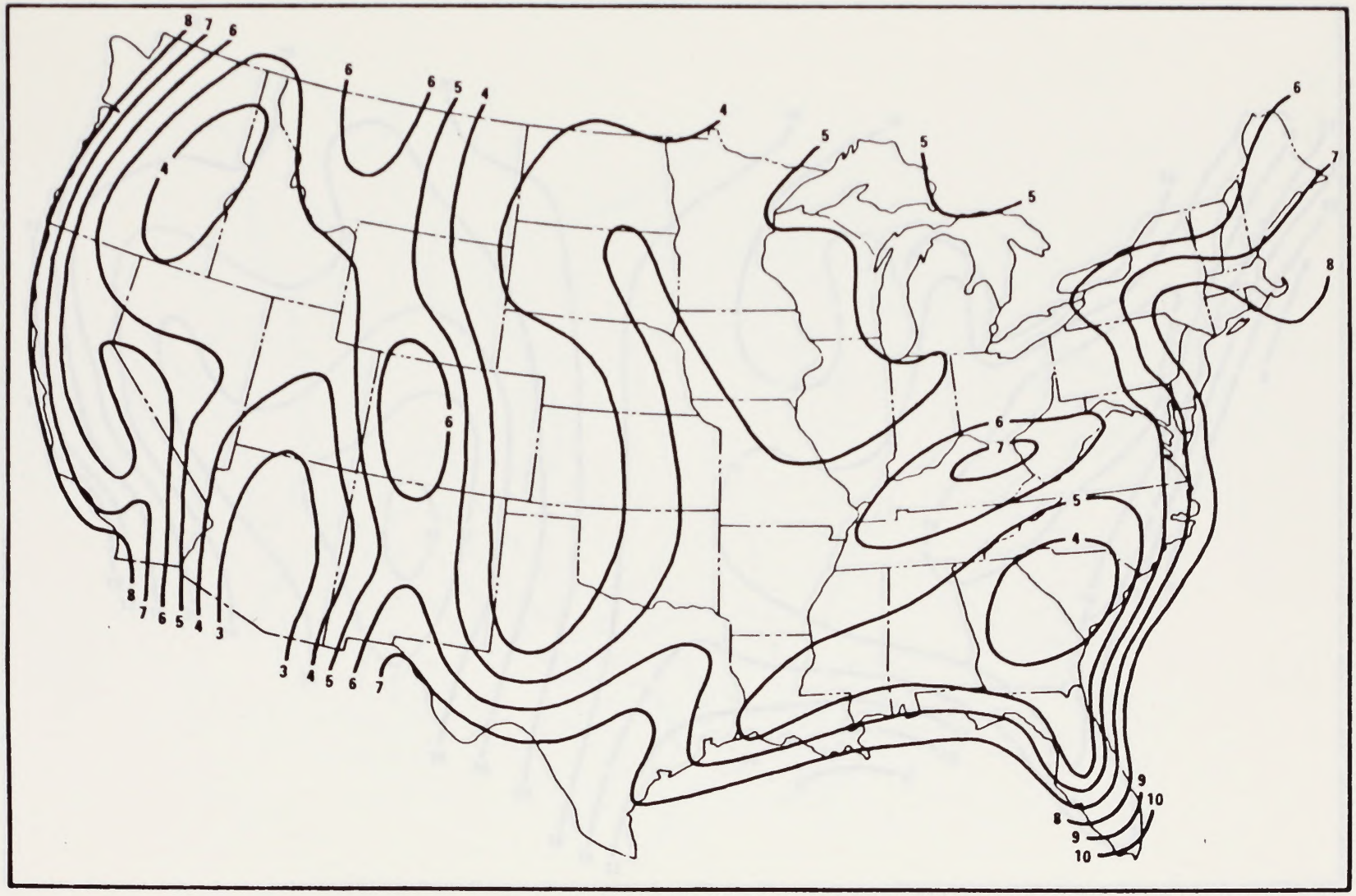
SEASONAL AND ANNUAL MIXING HEIGHTS DURING THE MORNING AND AFTERNOON HOURS IN THE CONTIGUOUS UNITED STATES



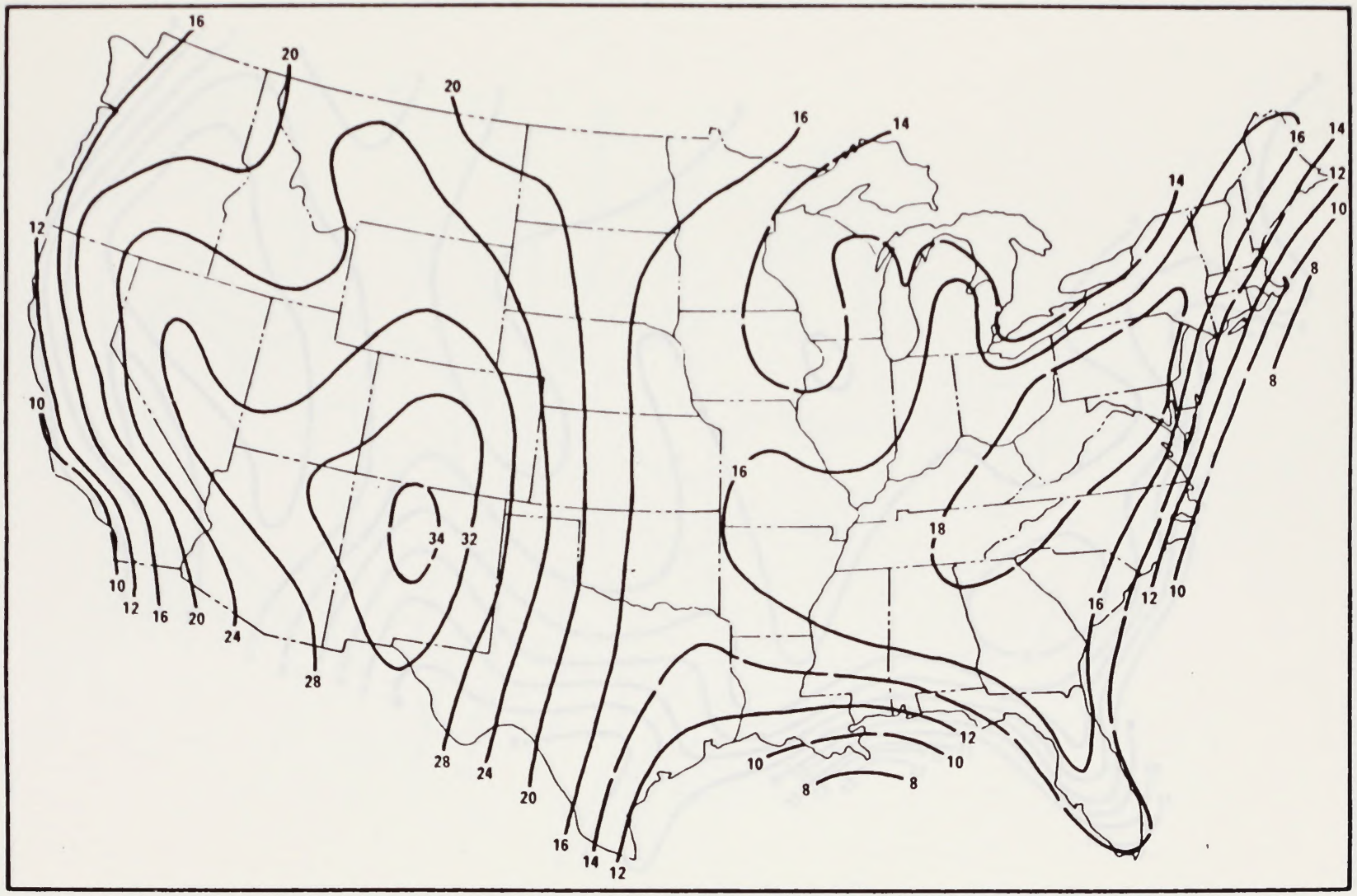
Isopleths (m x 10^2) of Mean Winter Morning Mixing Heights



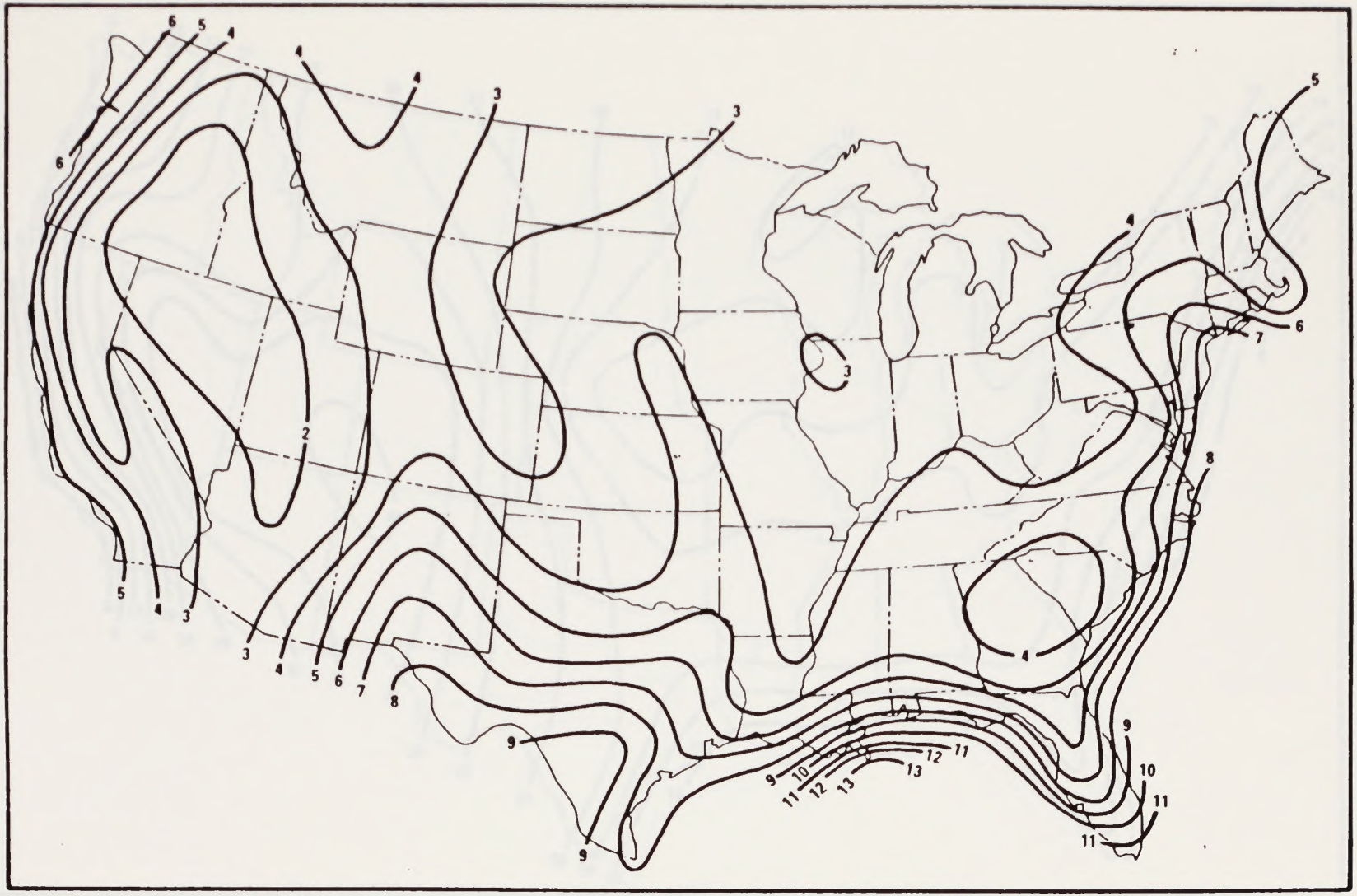
Isopleths (m x 10^2) of Mean Winter Afternoon Mixing Heights



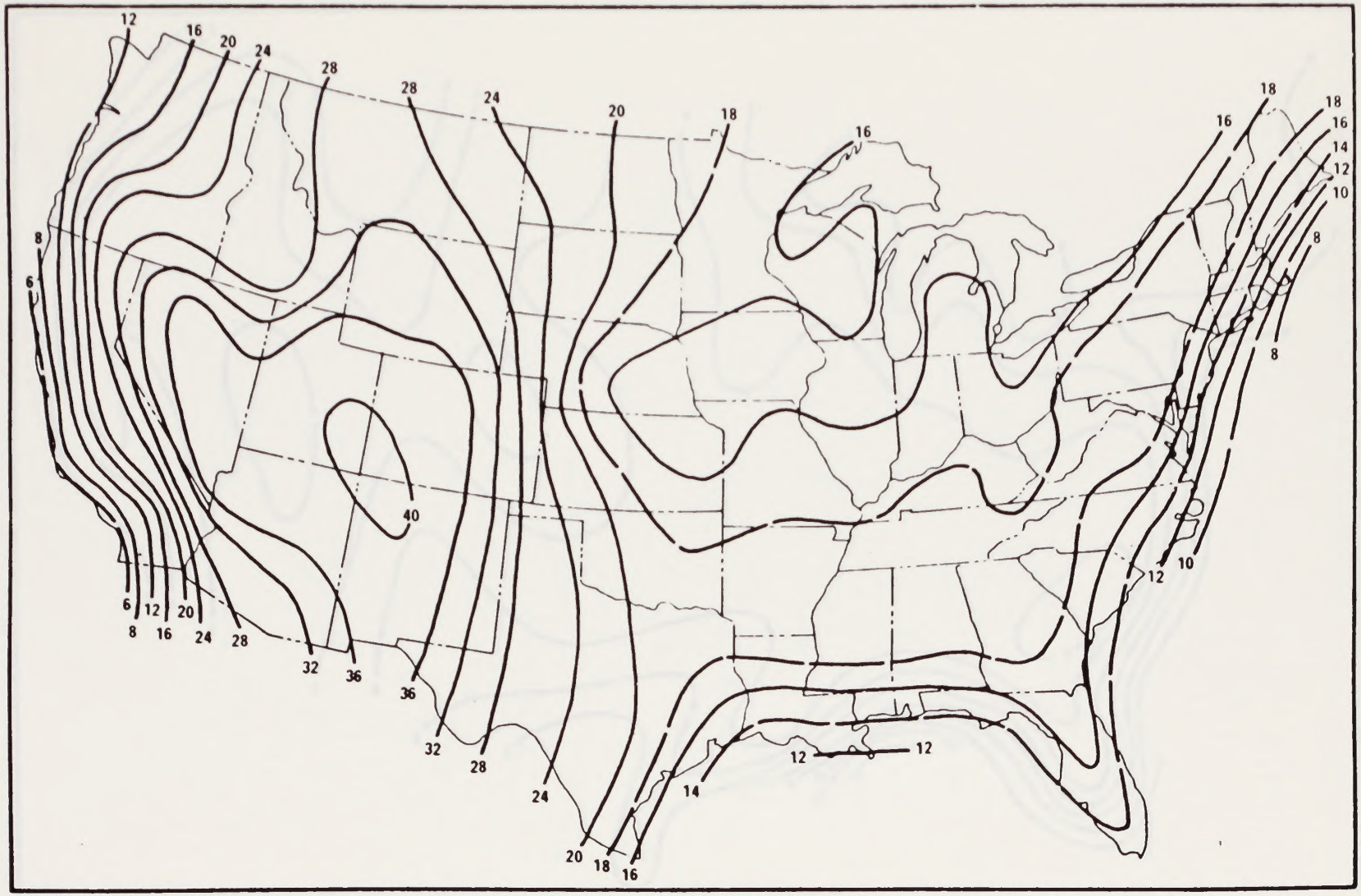
Isopleths (m x 10^2) of Mean Spring Morning Mixing Heights



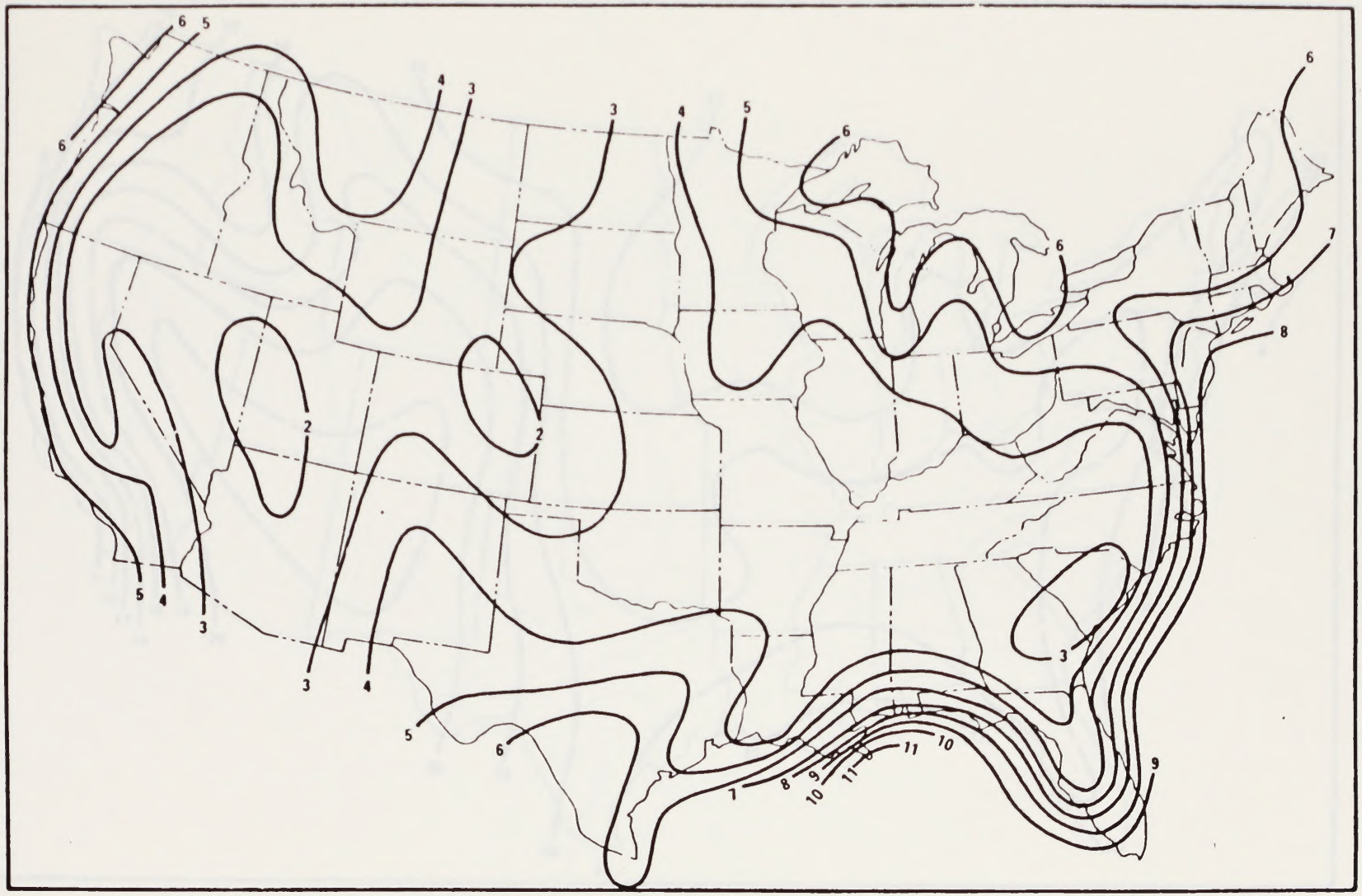
Isopleths (m x 10^2) of Mean Spring Afternoon Mixing Heights



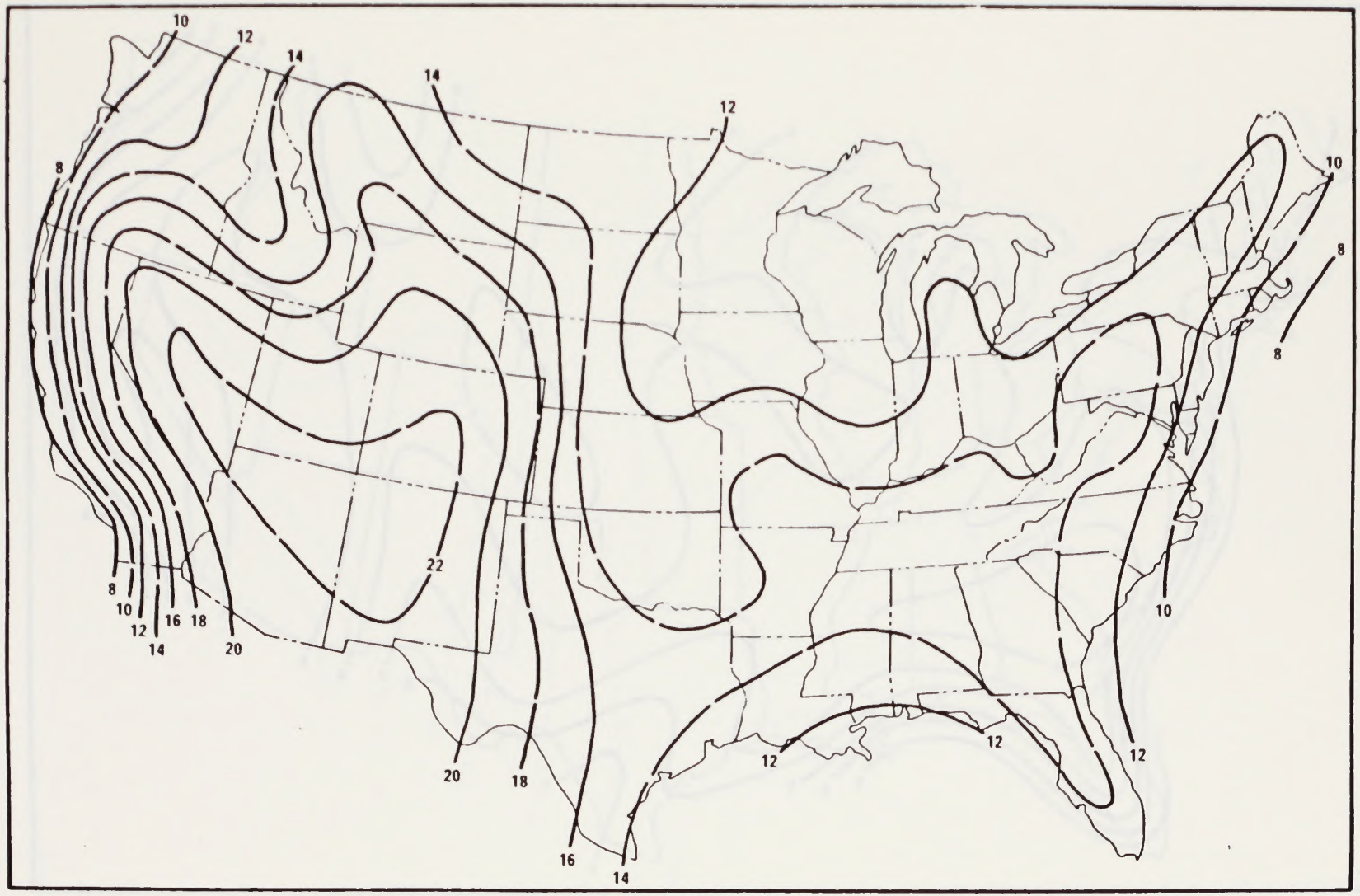
Isopleths (m x 10^2) of Mean Summer Morning Mixing Heights



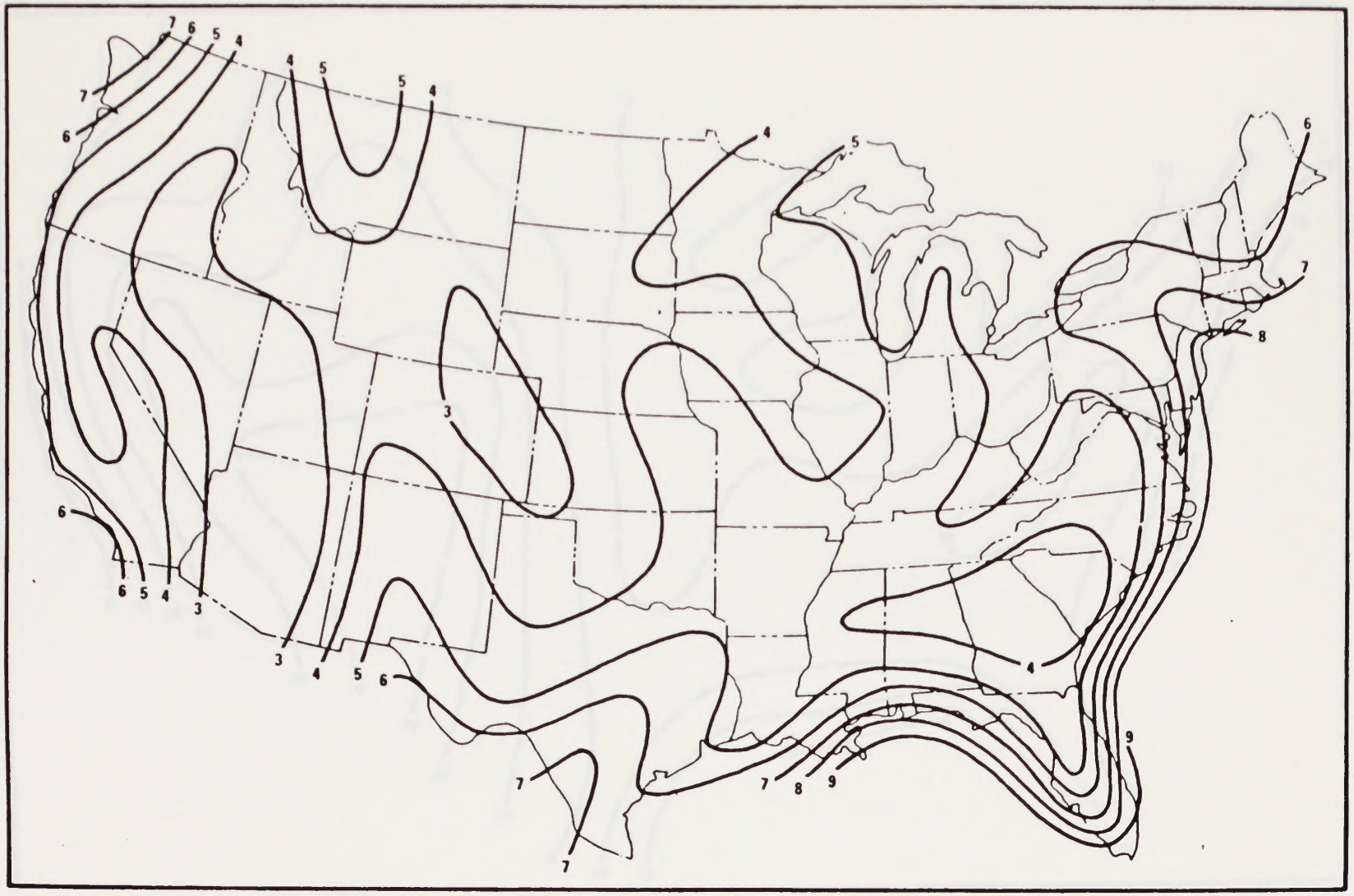
Isopleths (m x 10^2) of Mean Summer Afternoon Mixing Heights



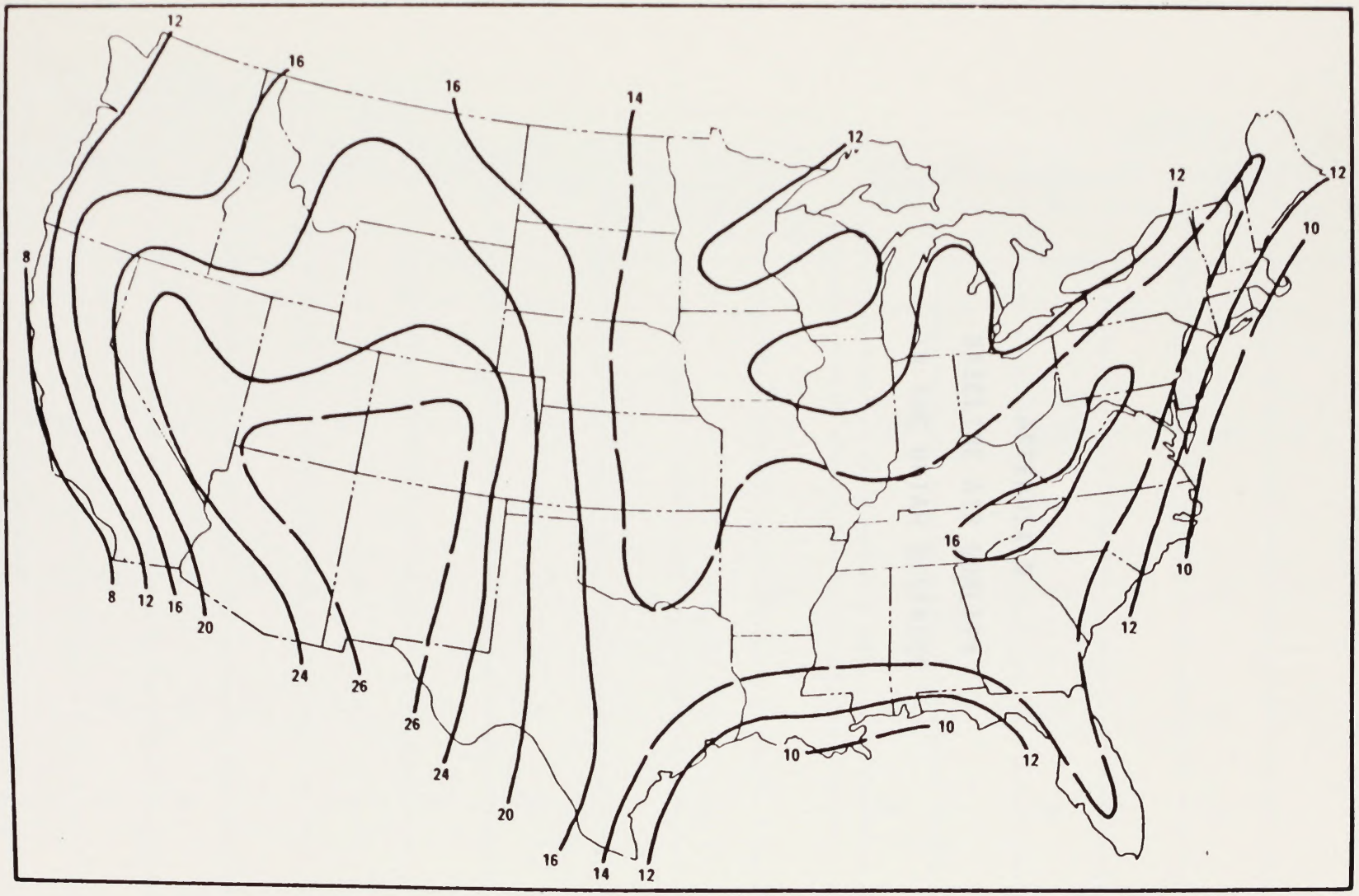
Isopleths (m x 10^2) of Mean Autumn Morning Mixing Heights



Isopleths (m x 10^2) of Mean Autumn Afternoon Mixing Heights



Isopleths (m x 10^2) of Mean Annual Morning Mixing Heights



Isopleths ($m \times 10^2$) of Mean Annual Afternoon Mixing Heights

APPENDIX D

BASELINE AIR QUALITY IN THE UKIAH DISTRICT

BLM DISTRICT 4

POLLUTANT: Oxidant in Parts Per Hundred Million
Daily Maximum Hourly Average Concentrations

STATION	YEAR	NO.OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Fairfield BAAPCD	1975	342	11	4.2	1.9	3.8	1.7	7	4	3	3.5	8	5.5	10	5.3	11	2.9	7
NAPA Jefferson St.	1975	365	17	4.5	2.4	4.0	1.7	7	4	3	3.0	7	5.5	11	6.2	17	3.4	7
Petaluma - Payran	1975	361	11	3.3	1.3	3.0	1.6	4	3	2	2.7	5	3.9	7	3.8	11	2.9	7
San Rafael	1975	353	13	2.3	1.4	1.9	2.0	4	2	1	2.4	4	2.7	5	2.6	13	1.6	4
Santa Rosa Humboldt St	1975	365	10	3.1	1.3	2.8	1.6	4	3	2	2.7	5	3.6	5	3.5	10	2.6	6

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4

POLLUTANT: Carbon Monoxide (NDIR) in Parts per Million
Daily Maximum Hourly Average Concentrations

STATION	YEAR	NO.OF OBS.	HIGH	ANNUAL							QUARTERLY							
				ARITHMETIC		GEOMETRIC		CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS			JAN. - MAR.		APR. - JUN.		JUL. - SEPT.		OCT. - DEC.	
				MEAN	STD.DEV.	MEAN	STD.DEV.	10%	50%	75%	ARITH. MEAN	HIGH	ARITH. MEAN	HIGH	ARITH. MEAN	HIGH	ARITH. MEAN	HIGH
Eureka Hwy. Dept.	1975	183	15	2.4	2.0	1.9	1.9	5	2	1	3.4	15	1.5	4	1.1	2	-	-
Napa - Jefferson St.	1975	365	12	4.7	2.0	4.4	1.5	8	4	3	5.2	12	3.6	5	3.9	10	6.2	11
San Rafael	1975	364	16	5.5	2.8	4.9	1.6	10	5	4	6.4	15	4.0	7	4.3	11	7.5	16
Santa Rosa Humboldt St.	1975	364	14	4.7	2.2	4.3	1.5	8	4	3	5.6	12	3.5	7	3.7	8	6.1	14

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4

POLLUTANT: Sulfur Dioxide in Parts per Hundred Million
Daily Maximum Hourly Average Concentrations

STATION	YEAR	NO.OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Napa - Jefferson St	1975	348	9	0.8	1.1	0.6	2.5	2	1	0	0.9	4	1.3	3	1.0	9	0.2	5
Santa Rosa Humboldt St	1975	361	3	0.0	0.3	0.3	1.3	0	0	0	0.0	0	0.0	0	0.1	3	0.0	0

POLLUTANT: Nitrogen Dioxide in Parts Per Hundred Million
Daily Maximum Hourly Average Concentrations

STATION	YEAR	NO.OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Napa - Jefferson St.	1975	364	10	4.3	1.4	4.1	1.4	6	4	3	4.2	8	3.8	6	4.1	9	5.2	10
San Rafael	1975	358	15	4.6	1.7	4.4	1.4	7	4	4	4.7	10	4.3	8	4.1	15	5.4	12
Santa Rosa Humboldt St.	1975	364	18	3.8	2.1	3.4	1.7	6	3	2	4.4	7	3.1	8	2.8	6	5.0	18

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4

POLLUTANT: Nitric Oxide in Parts per Hundred Million
Daily Maximum Hourly Average Concentrations

STATION	YEAR	NO. OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Napa Jefferson St.	1975	361	31	5.0	5.3	3.1	2.8	11	3	2	9.9	31	3.1	10	2.6	16	4.5	11
San Rafael	1975	345	55	14.9	11.5	11.0	2.2	32	10	6	19.1	54	9.8	34	9.2	41	21.3	55
Santa Rosa Humboldt St.	1975	362	38	7.5	7.6	4.1	3.5	18	5	2	10.3	35	4.2	17	2.7	12	13.0	38

POLLUTANT: Oxides of Nitrogen in Parts Per Hundred Million
Daily Maximum Hourly Average Concentrations

Napa - Jefferson St.	1975	362	34	8.4	5.6	7.1	1.8	15	7	5	13.2	34	6.1	12	5.6	23	8.6	18

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4

POLLUTANT: Oxides of Nitrogen in Parts Per Hundred Million
Daily Maximum Hourly Average Concentrations

STATION	YEAR	NO. OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
San Rafael	1975	349	63	18.5	12.2	15.2	1.9	37	13	9	23.4	60	13.3	38	12.1	46	25.3	63
Santa Rosa Humboldt St.	1975	362	44	10.4	8.5	7.5	2.3	23	8	4	13.8	40	6.6	20	4.9	16	16.5	44

POLLUTANT: Hydrocarbons in Parts per Million
Daily Maximum Hourly Average Concentrations

Napa - Jefferson St.	1975	362	6	2.8	0.8	2.7	1.3	4	3	2	2.9	5	2.2	3	2.6	5	3.4	6
San Rafael	1975	364	6	2.6	0.8	2.5	1.3	4	2	2	2.9	6	2.2	3	2.3	4	3.0	4
Santa Rosa Humboldt St.	1975	358	6	2.5	0.9	2.3	1.4	4	2	2	2.8	6	2.2	6	2.0	4	2.9	5

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4

POLLUTANT: Suspended Particulates by AISI Method
Daily Maximum 2-Hr. COH Index - Values are COH x 10

STATION	YEAR	NO.OF OBS.	HIGH	ANNUAL							QUARTERLY							
				ARITHMETIC		GEOMETRIC		CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS			JAN. - MAR.		APR. - JUN.		JUL. - SEPT.		OCT. - DEC.	
				MEAN	STD.DEV.	MEAN	STD.DEV.	10%	50%	75%	ARITH. MEAN	HIGH	ARITH. MEAN	HIGH	ARITH. MEAN	HIGH	ARITH. MEAN	HIGH
Eureka 6th & I Streets	1975	337	18	4.7	3.1	3.9	1.9	9	4	2	5.1	16	3.1	8	3.7	14	7.1	18
Eureka Hwy. Dept.	1975	301	16	4.4	3.0	3.6	1.8	9	3	2	5.0	15	3.3	9	3.3	10	6.1	16
Fairfield BAAPCD	1975	345	30	5.4	4.4	4.1	2.1	11	3	2	6.3	21	2.7	7	3.8	11	8.4	30
Napa - Jefferson St.	1975	363	28	6.1	5.3	4.4	2.2	14	4	2	6.4	17	3.1	28	3.1	8	11.7	26

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4

POLLUTANT: Suspended Particulates by the AISI Method
Daily Maximum 2 Hour COH Index - COH Values x 10

STATION	YEAR	NO. OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Petaluma Payran	1975	362	27	5.8	5.0	4.1	2.3	13	4	2	6.9	23	3.9	12	2.8	9	9.6	27
San Rafael	1975	364	32	5.2	4.7	3.8	2.2	12	3	2	6.4	32	2.8	7	3.5	12	8.1	25
Santa Rosa Humboldt St.	1975	364	32	5.2	4.7	3.8	2.2	12	3	2	6.4	32	2.8	7	3.5	12	8.1	25
POLLUTANT: Suspended Particulates by HI-VOL Method Micrograms per Cubic Meter																		
Cloverdale	1975	56	99	47.8	23.9	40.6	1.6	76	45	29	-	-	-	-	-	-	-	-
Crescent City	1975	23	134	55.0	28.8	48.3	1.7	80	47	29	-	-	-	-	-	-	-	-
Eureka 6th & I Streets	1975	60	141	59.5	27.5	53.0	1.7	100	58	38	-	-	-	-	-	-	-	-

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4
POLLUTANT: Suspended Particulates by HI-VOL Method
Micrograms per Cubic Meter

STATION	YEAR	NO.OF OBS.	HIGH	ANNUAL							QUARTERLY							
				ARITHMETIC		GEOMETRIC		CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS			JAN. - MAR.		APR. - JUN.		JUL. - SEPT.		OCT. - DEC.	
				MEAN	STD.DEV.	MEAN	STD.DEV.	10%	50%	75%	ARITH. MEAN	HIGH	ARITH. MEAN	HIGH	ARITH. MEAN	HIGH	ARITH. MEAN	HIGH
Eureka Hwy. Dept.	1975	59	162	68.6	32.1	59.5	1.8	106	67	41	-	-	-	-	-	-	-	-
Fort Bragg South Main	1975	49	455	117.9	87.3	96.2	1.9	201	88	60	-	-	-	-	-	-	-	-
Kelseyville	1975	7	52	21.3	17.4	16.3	2.2	52	13	9	-	-	-	-	-	-	-	-
Lakeport - Lakeport Blvd.	1975	58	51	25.2	13.0	21.1	1.9	43	24	13	-	-	-	-	-	-	-	-
Napa - Jefferson St.	1975	59	107	58.1	20.2	54.5	1.5	86	59	38	-	-	-	-	-	-	-	-

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4

POLLUTANT: Suspended Particulates by HI-VOL Method
Micrograms Per Cubic Meter

STATION	YEAR	NO.OF OBS.	ANNUAL HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
San Rafael	1975	64	87	43.5	16.6	40.6	1.5	70	41	30	-	-	-	-	-	-	-	-
Santa Rosa Humboltd St.	1975	57	107	42.3	19.4	38.4	1.6	70	40	25	-	-	-	-	-	-	-	-
Ukiah Firehouse	1975	48	158	72.5	33.8	64.4	1.7	122	69	46	-	-	-	-	-	-	-	-
Vacaville	1975	8	105	62.0	23.9	58.4	1.4	105	53	44	-	-	-	-	-	-	-	-
Willits	1975	44	202	68.8	34.7	61.3	1.6	117	64	42	-	-	-	-	-	-	-	-

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

APPENDIX E

LONG-TERM BASELINE AIR QUALITY IN THE UKIAH DISTRICT

BLM DISTRICT 4
POLLUTANT: Oxidant in Parts Per Hundred Million
Daily Maximum Hourly Average Concentrations

STATION	YEAR	NO. OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Eureka 6th & I Streets	1973	336	6	3.2	0.8	3.1	1.3	4	3	3	3.4	5	3.5	5	3.0	6	3.0	5
	1972	360	6	3.4	1.0	3.2	1.4	5	3	3	3.2	5	4.0	6	3.0	6	3.3	5
	1971	96	5	2.9	0.8	2.8	1.3	4	3	2	-	-	-	-	2.5	3	3.0	5
Fairfield	1975	342	11	4.2	1.9	3.8	1.7	7	4	3	3.5	8	5.5	10	5.3	11	2.9	7
BAAPCD	1974	359	12	4.5	2.0	4.0	1.7	7	4	3	3.1	6	4.6	8	6.1	12	3.9	10
	1973	345	15	4.0	2.0	3.5	1.7	7	4	3	3.0	6	5.1	15	5.1	12	2.8	9
	1972	184	14	5.5	2.2	5.1	1.5	8	5	4	4.3	9	6.5	14	8.0	11	-	-
	1971	338	18	4.6	2.0	4.1	1.7	8	4	3	3.6	8	4.0	11	5.8	12	5.1	18
	1970	208	16	4.4	2.3	3.9	1.7	7	4	3	4.4	10	6.1	16	-	-	3.0	7
	1969	93	14	5.1	2.2	4.6	1.5	8	5	4	-	-	-	-	7.6	14	4.8	11
NAPA	1975	365	17	4.5	2.4	4.0	1.7	7	4	3	3.0	7	5.5	11	6.2	17	3.4	7
Jefferson St.	1974	356	11	4.0	1.8	3.6	1.6	7	4	3	3.0	5	4.4	10	5.5	11	3.4	9
	1973	364	14	3.9	1.9	3.4	1.8	6	4	3	3.8	7	5.0	14	4.0	12	2.7	8
	1972	296	18	5.3	2.6	4.6	1.7	8	5	4	4.8	8	6.1	15	6.0	18	3.7	13
Petaluma-Payran	1975	361	11	3.3	1.3	3.0	1.6	4	3	2	2.7	5	3.9	7	3.8	11	2.9	7
	1974	358	11	3.5	1.5	3.2	1.6	5	3	2	3.0	5	3.3	8	4.0	10	3.7	11
	1973	361	11	3.2	1.4	3.0	1.5	4	3	2	2.4	4	3.7	11	3.6	9	3.1	11
	1972	286	9	3.2	1.5	2.9	1.6	5	3	2	8.1	9	3.6	6	3.2	7	2.2	6

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4

POLLUTANT: Oxidant in Parts per Hundred Million
Daily Maximum Hourly Average

STATION	YEAR	NO.OF OBS.	ANNUAL HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
San Rafael	1975	353	13	2.3	1.4	1.9	2.0	4	2	1	2.4	4	2.7	5	2.6	13	1.6	4
	1974	362	10	2.8	1.4	2.5	1.8	4	3	2	2.1	5	2.9	7	3.7	10	2.7	7
	1973	360	9	2.6	1.4	2.3	1.7	4	2	2	2.8	5	3.6	9	2.2	6	1.9	8
	1972	364	17	3.3	1.9	2.9	1.7	5	3	2	3.1	11	2.7	17	4.4	13	2.9	9
	1971	365	18	3.8	2.3	3.3	1.8	6	3	2	3.1	9	4.3	11	4.1	18	3.8	14
	1970	362	24	4.5	3.0	3.6	1.9	8	4	3	4.4	12	5.0	24	5.6	20	2.8	15
	1969	349	23	4.2	2.8	3.5	1.9	7	4	3	3.6	23	3.9	11	5.4	14	3.8	11
	1968	341	13	3.7	2.3	3.1	1.8	7	3	2	3.3	9	4.1	12	3.7	13	3.6	13
	1967	329	18	4.1	2.7	3.4	1.8	8	4	2	2.8	8	3.5	9	5.7	18	4.1	12
	1966	309	30	5.0	3.0	4.4	1.7	8	4	4	4.6	17	5.4	30	5.0	14	4.9	12
	1965	216	17	5.5	3.1	4.8	1.7	10	4	4	-	-	5.0	17	5.7	15	5.7	17
	1964	284	23	3.8	2.6	3.2	1.9	7	3	2	2.9	7	3.5	10	4.6	23	3.7	13
	1963	111	18	3.7	3.1	2.6	2.5	7	3	2	-	-	-	-	4.6	18	2.2	6
Santa Rosa Humboldt St.	1975	365	10	3.1	1.3	2.8	1.6	4	3	2	2.7	5	3.6	5	3.5	10	2.6	6
	1974	363	8	3.4	1.2	3.1	1.6	5	3	2	3.2	5	3.5	8	3.4	8	3.3	8
	1973	365	10	3.3	1.4	3.1	1.6	5	3	2	3.4	7	3.3	10	3.7	10	3.0	9
	1972	145	23	4.4	2.8	3.5	2.0	8	4	3	-	-	-	-	5.6	9	3.7	23

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4

POLLUTANT: Carbon Monoxide (NDIR) in Parts per Million
Daily Maximum Hourly Average Concentrations

STATION	YEAR	NO.OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Eureka	1975	183	15	2.4	2.0	1.9	1.9	5	2	1	3.4	15	1.5	4	1.1	2	-	-
Hwy. Dept.	1974	228	12	2.3	1.9	1.8	1.9	5	2	1	-	-	1.1	2	1.4	8	3.6	12
Napa -	1975	365	12	4.7	2.0	4.4	1.5	8	4	3	5.2	12	3.6	5	3.9	10	6.2	11
Jefferson St	1974	365	15	4.8	2.4	4.3	1.6	8	4	3	6.2	15	3.6	8	3.1	6	6.2	12
	1973	365	14	5.2	2.1	4.9	1.4	8	5	4	6.1	14	4.0	8	4.1	12	6.8	14
	1972	295	13	5.0	2.0	4.6	1.5	8	4	4	3.8	8	4.3	9	4.1	9	6.8	13
San Rafael	1975	364	16	5.5	2.8	4.9	1.6	10	5	4	6.4	15	4.0	7	4.3	11	7.5	16
	1974	365	18	5.6	2.9	5.0	1.6	9	4	4	6.9	18	3.9	11	4.2	13	7.3	15
	1973	363	16	5.2	2.3	4.8	1.5	8	4	4	5.8	12	4.1	8	4.2	16	6.7	15
	1972	363	18	5.6	2.6	5.1	1.5	8	5	4	6.1	16	5.0	9	4.5	17	6.8	18
	1971	357	18	5.4	3.1	4.6	1.7	10	4	3	6.5	15	3.8	8	3.5	13	7.8	18
	1970	324	19	5.2	3.4	4.3	1.9	10	4	3	5.5	19	3.1	9	4.9	18	7.2	18
	1969	362	20	3.9	3.3	2.9	2.0	8	3	2	4.3	13	2.1	6	2.3	8	6.8	20
	1968	357	20	4.6	3.4	3.7	1.9	9	3	2	5.4	20	2.8	8	3.2	15	7.1	19
	1967	92	17	8.3	3.6	7.5	1.6	13	8	6	-	-	-	-	-	-	9.3	17
Santa Rosa -	1975	364	14	4.7	2.2	4.3	1.5	8	4	3	5.6	12	3.5	7	3.7	8	6.1	14
Humboldt St.	1974	364	13	5.2	2.4	4.7	1.6	9	5	3	7.0	13	3.9	8	3.4	9	6.3	12
	1973	357	16	5.9	2.2	5.6	1.4	9	5	4	5.9	12	4.9	9	4.9	12	7.9	16
	1972	149	20	5.4	2.6	4.8	1.6	9	5	3	-	-	-	-	3.8	10	6.4	20

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4
POLLUTANT: Sulfur Dioxide in Parts per Hundred Million
Daily Maximum Hourly Average Concentrations

STATION	YEAR	NO.OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Napa - Jefferson St.	1975	348	9	0.8	1.1	0.6	2.5	2	1	0	0.9	4	1.3	3	1.0	9	0.2	5
	1974	341	8	1.4	1.1	1.1	2.2	3	1	1	0.7	2	1.1	3	2.1	8	1.8	7
Santa Rosa	1975	361	3	0.0	0.3	0.3	1.3	0	0	0	0.0	0	0.0	0	0.1	3	0.0	0
Humboldt St.	1974	335	2	0.1	0.3	0.3	1.4	0	0	0	0.1	1	0.2	2	0.0	0	0.0	0

POLLUTANT: Nitrogen Dioxide in Parts Per Hundred Million
Daily Maximum Hourly Average Concentrations

Eureka 6th & I Streets	1973	339	10	2.9	1.1	2.7	1.5	4	3	2	3.5	7	2.7	10	2.3	6	3.1	5
	1972	242	11	3.0	1.4	2.7	1.5	5	3	2	-	-	2.3	4	2.5	5	3.9	11
Napa - Jefferson St.	1975	364	10	4.3	1.4	4.1	1.4	6	4	3	4.2	8	3.8	6	4.1	9	5.2	10
	1974	365	14	4.4	1.5	4.2	1.4	6	4	3	4.6	8	3.9	7	4.2	8	5.0	14
	1973	358	12	4.4	1.6	4.2	1.4	6	4	3	3.8	7	4.3	9	4.2	11	5.2	12
	1972	265	8	3.9	1.3	3.7	1.4	6	4	3	-	-	3.6	8	3.7	8	4.4	8

Data prior to July 1, 1975 reflects an 0.8 factor applied to hourly concentrations.

BLM DISTRICT 4

POLLUTANT: Nitrogen Dioxide Parts per Hundred Million
Daily Maximum Hourly

STATION	YEAR	NO. OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
San Rafael	1975	358	15	4.6	1.7	4.4	1.4	7	4	4	4.7	10	4.3	9	4.1	15	5.4	12
	1974	365	17	4.7	1.8	4.4	1.4	7	4	4	5.2	13	4.6	10	4.1	12	4.8	17
	1973	349	19	5.1	2.3	4.7	1.4	8	5	4	4.3	8	4.5	10	5.4	19	6.0	15
	1972	363	14	4.1	1.7	3.8	1.4	6	4	3	5.2	12	4.4	14	3.5	8	3.3	6
	1971	359	12	3.9	1.6	3.6	1.5	6	4	3	4.0	8	4.1	8	3.3	9	4.3	12
	1970	346	17	4.8	2.4	4.3	1.6	8	4	3	5.2	11	3.8	12	5.0	15	5.2	17
	1969	355	18	5.2	2.8	4.5	1.7	9	5	3	7.3	18	3.6	9	3.6	11	6.6	18
	1968	363	24	6.3	3.6	5.5	1.6	10	5	4	5.6	14	4.7	13	5.8	20	8.8	24
	1967	90	19	6.4	2.7	5.9	1.5	10	6	4	-	-	-	-	-	-	6.4	19
Santa Rosa - Humboldt St.	1975	364	18	3.8	2.1	3.4	1.7	6	3	2	4.4	7	3.1	8	2.8	6	5.0	18
	1974	350	15	3.3	1.8	2.9	1.7	5	3	2	3.7	8	2.1	4	2.8	10	4.5	15
	1973	360	16	3.8	1.9	3.4	1.6	6	3	3	3.7	7	2.8	8	3.3	16	5.4	12
	1972	141	11	3.7	1.4	3.4	1.5	5	4	3	-	-	-	-	3.0	8	4.1	11

POLLUTANT: Nitric Oxide in Parts Per Hundred Million
Daily Maximum Hourly Average Concentrations

Eureka 6th & I Streets	1973	338	34	4.2	4.4	2.9	2.3	9	3	2	7.3	34	2.4	13	2.6	12	4.7	18
	1972	233	29	5.0	5.4	3.3	2.4	14	3	2	-	-	2.1	6	2.9	14	8.8	29

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4
POLLUTANT: Nitric Oxide in Parts per Hundred Million
Daily Maximum Hourly Average Concentrations

STATION	YEAR	NO. OF OBS.	ANNUAL HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD. DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD. DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Napa -	1975	361	31	5.0	5.3	3.1	2.8	11	3	2	9.9	31	3.1	10	2.6	16	4.5	11
Jefferson St.	1974	365	52	8.3	8.9	4.7	3.1	21	4	2	10.4	39	3.0	14	2.7	10	17.0	52
	1973	357	29	6.3	5.9	3.6	3.3	15	4	2	9.1	29	2.5	10	2.6	17	11.2	27
	1972	260	29	6.1	5.7	3.9	2.7	15	4	2	-	-	3.1	11	3.5	13	11.1	29
San Rafael	1975	345	55	14.9	11.5	11.0	2.2	32	10	6	19.1	54	9.8	34	9.2	41	21.3	55
	1974	363	74	15.6	13.2	11.1	2.3	33	11	6	21.3	72	9.8	46	8.1	42	23.2	74
	1973	346	67	17.3	13.7	12.8	2.3	36	12	7	22.4	61	10.6	41	11.2	60	25.7	67
	1972	358	87	12.0	12.1	7.4	3.0	29	8	4	8.0	24	4.4	18	10.3	54	25.2	87
	1971	357	197	13.2	15.2	8.7	2.5	29	9	4	17.1	65	5.9	33	9.9	56	19.4	197
	1970	342	53	8.4	9.7	3.7	4.4	22	4	1	11.0	53	1.7	16	5.8	42	14.8	50
	1969	352	120	7.4	9.8	3.7	3.7	18	4	2	5.4	120	4.2	23	2.5	15	8.0	26
	1968	360	63	12.7	12.0	7.3	3.3	30	9	3	18.6	63	4.6	19	6.9	35	20.2	53
	1967	86	77	24.8	13.2	20.8	1.9	40	25	15	-	-	-	-	-	-	24.8	77
Santa Rosa -	1975	362	38	7.5	7.6	4.1	3.5	18	5	2	10.3	35	4.2	17	2.7	12	13.0	38
Humboldt St.	1974	335	35	7.2	7.3	4.0	3.4	19	4	2	7.9	29	3.0	16	3.0	35	13.7	32
	1973	344	43	6.2	6.4	3.4	3.5	15	4	1	7.6	43	3.1	13	3.3	23	10.9	29
	1972	138	69	8.2	8.6	4.6	3.4	19	5	2	-	-	-	-	4.0	22	10.7	69

Data prior to July 1, 1975 reflects an 0.8 factor applied to hourly concentrations.

BLM DISTRICT 4
POLLUTANT: Oxides of Nitrogen in Parts Per Hundred Million
Daily Maximum Hourly Average Concentrations

STATION	YEAR	NO.OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Eureka 6th & I Streets	1973	338	40	6.6	5.0	5.3	1.9	13	5	4	10.2	40	4.6	23	4.4	15	7.2	21
	1972	234	35	7.2	6.0	5.7	1.9	17	5	4	-	-	4.0	8	4.9	18	11.6	35
Napa - Jefferson St.	1975	362	34	8.4	5.6	7.1	1.8	15	7	5	13.2	34	6.1	12	5.6	23	8.6	18
	1974	365	56	11.6	9.3	8.9	2.0	25	8	5	13.8	44	5.9	17	5.7	17	20.8	56
	1973	363	33	9.7	6.2	8.1	1.8	19	7	5	12.0	33	6.1	14	5.8	26	15.1	30
	1972	260	33	9.0	6.2	7.4	1.8	18	7	5	-	-	6.0	17	6.1	18	14.3	33
San Rafael	1975	349	63	18.5	12.2	15.2	1.9	37	13	9	23.4	60	13.3	38	12.1	46	25.3	63
	1974	364	80	19.1	13.6	15.3	1.9	37	15	9	25.2	78	13.4	51	11.3	48	26.8	80
	1973	348	72	20.7	14.1	17.0	1.9	40	16	11	25.2	64	13.7	45	14.8	68	29.7	72
	1972	359	90	14.9	12.0	11.7	2.0	32	11	7	11.6	28	7.7	20	12.7	58	27.5	90
	1971	364	201	16.0	15.4	12.2	2.0	32	11	7	20.0	70	9.2	37	12.3	60	22.3	201
	1970	344	60	12.1	10.3	8.7	2.3	26	8	4	15.1	58	5.0	22	9.5	50	18.7	60
	1969	355	125	11.4	10.8	8.3	2.2	24	8	4	20.8	125	7.2	28	5.5	19	12.9	36
	1968	362	70	17.0	13.1	12.9	2.1	37	12	7	22.8	70	8.2	25	11.1	45	25.7	60
	1967	87	90	29.7	14.3	26.1	1.7	45	30	20	-	-	-	-	-	-	29.7	90
Santa Rosa - Humboldt St.	1975	362	44	10.4	8.5	7.5	2.3	23	8	4	13.8	40	6.6	20	4.9	16	16.5	44
	1974	335	45	9.8	8.2	7.0	2.3	22	6	4	10.9	30	4.6	20	5.4	45	17.0	38
	1973	347	50	9.1	7.2	6.8	2.2	20	7	4	10.5	50	5.3	18	6.1	30	14.6	34
	1972	142	80	10.9	9.4	8.1	2.2	22	8	4	-	-	-	-	6.5	26	13.7	80

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4
POLLUTANT: Hydrocarbons in Parts per Million
Daily Maximum Hourly Average Concentrations

STATION	YEAR	NO.OF OBS.	ANNUAL HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Napa -	1975	362	6	2.8	0.8	2.7	1.3	4	3	2	2.9	5	2.2	3	2.6	5	3.4	6
Jefferson St.	1974	363	9	3.7	1.4	3.5	1.5	6	3	3	3.8	8	3.2	7	3.1	6	4.8	9
	1973	361	11	2.9	1.6	2.5	1.8	5	3	2	3.2	7	2.2	6	2.1	7	4.2	11
	1972	284	18	3.0	1.7	2.6	1.7	5	3	2	2.7	7	2.4	5	2.5	5	4.0	18
San Rafael	1975	364	6	2.6	0.8	2.5	1.3	4	2	2	2.9	6	2.2	3	2.3	4	3.0	4
	1974	365	10	4.4	1.6	4.1	1.4	7	4	3	5.0	10	3.5	7	3.6	8	5.4	9
	1973	362	18	5.3	1.9	5.0	1.4	7	5	4	6.1	17	5.3	18	4.4	12	5.2	9
	1972	363	13	4.8	1.6	4.5	1.4	7	4	4	4.9	8	3.9	13	4.2	9	6.0	10
	1971	360	13	4.7	1.6	4.5	1.4	7	4	4	4.8	8	4.0	8	4.4	10	5.6	13
	1970	356	22	4.7	2.4	4.2	1.6	8	4	3	4.9	11	3.2	7	4.7	22	6.2	11
	1969	363	21	6.2	2.9	5.6	1.6	10	6	4	7.1	21	5.0	15	7.0	14	6.0	16
	1968	361	45	6.6	5.6	5.5	1.7	9	5	4	6.1	13	4.3	8	4.9	13	11.0	45
	1967	92	13	7.0	2.0	6.7	1.4	10	7	6	-	-	-	-	-	-	7.0	13
Santa Rosa -	1975	358	6	2.5	0.9	2.3	1.4	4	2	2	2.8	6	2.2	6	2.0	4	2.9	5
Humboldt St.	1974	355	10	3.2	1.7	2.8	1.7	6	3	2	3.8	7	1.9	7	2.6	6	4.6	10
	1973	357	8	3.4	1.4	3.0	1.6	5	3	2	3.8	8	2.8	6	2.5	6	4.3	7
	1972	142	8	3.8	1.7	3.4	1.7	6	4	2	-	-	-	-	2.5	6	4.5	8

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4
POLLUTANT: Suspended Particulates by AISI Method
Daily Maximum 2-Hr. COH Index - Values are COH x 10

STATION	YEAR	NO. OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Eureka 6th & I Streets	1975	337	18	4.7	3.1	3.9	1.9	9	4	2	5.1	16	3.1	8	3.7	14	7.1	18
	1974	103	13	5.2	2.9	4.4	1.8	9	4	3	-	-	-	-	3.7	13	6.3	13
	1973	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1972	217	23	4.9	3.9	3.8	2.0	11	3	2	-	-	2.1	4	3.2	10	7.8	23
Eureka Hwy. Dept.	1975	301	16	4.4	3.0	3.6	1.8	9	3	2	5.0	15	3.3	9	3.3	10	6.1	16
	1974	326	26	5.2	4.3	4.1	2.0	11	4	2	7.3	25	3.2	11	3.6	13	7.2	26
	1973	35	22	6.5	4.5	5.4	1.8	11	4	4	-	-	-	-	-	-	6.5	22
Eureka Non-Specified Location	1963	258	36	9.9	6.9	8.0	1.9	20	8	5	15.5	36	7.0	17	7.5	16	8.1	20
Fairfield	1975	345	30	5.4	4.4	4.1	2.1	11	3	2	6.3	21	2.7	7	3.8	11	8.4	30
BAAPCD	1974	352	24	5.5	4.3	4.3	2.0	12	4	2	7.8	24	3.0	12	3.9	13	7.4	19
	1973	363	22	4.7	3.8	3.6	2.0	10	3	2	5.7	21	2.8	9	2.5	20	7.6	22
	1972	289	25	4.6	3.7	3.5	2.0	10	3	2	4.6	13	2.4	6	3.4	13	7.8	25
Napa -	1975	363	28	6.1	5.3	4.4	2.2	14	4	2	6.4	17	3.1	28	3.1	8	11.7	26
Jefferson St.	1974	353	20	5.5	4.1	4.3	2.0	12	4	3	7.0	19	3.1	15	2.8	11	8.9	20
	1973	364	22	6.1	4.3	4.9	2.0	12	5	3	7.3	21	3.5	8	3.6	10	10.0	22
	1972	296	156	6.4	11.3	4.3	2.1	13	4	2	17.4	156	3.0	7	3.7	10	9.3	20

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4
POLLUTANT: Suspended Particulates by the AISI Method
Daily Maximum 2 Hour COH Index - COH Values x 10

STATION	YEAR	NO.OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	75%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Petaluma	1975	362	27	5.8	5.0	4.1	2.3	13	4	2	6.9	23	3.9	12	2.8	9	9.6	27
Payran	1974	356	23	5.1	4.5	3.7	2.3	12	4	2	6.8	23	3.2	9	2.6	12	8.2	19
	1973	353	30	4.8	4.3	3.5	2.2	10	3	2	6.5	16	2.8	13	3.5	17	7.6	30
	1972	284	19	3.5	3.1	2.6	2.1	7	2	1	5.0	9	2.9	8	3.0	8	4.3	19
San Rafael	1975	364	32	5.2	4.7	3.8	2.2	12	3	2	6.4	32	2.8	7	3.5	12	8.1	25
	1974	365	24	5.3	3.9	4.2	2.0	11	4	3	5.7	20	3.5	12	3.8	12	8.3	24
	1973	363	21	5.6	4.0	4.4	2.0	11	4	3	5.4	19	4.1	10	4.5	18	8.4	21
	1972	366	22	6.2	4.1	5.1	1.9	12	5	3	8.1	20	4.5	17	4.3	17	8.1	22
	1971	121	27	11.3	6.1	9.5	1.9	20	11	6	-	-	-	-	6.6	19	12.9	27
Santa Rosa - Humboldt St.	1975	364	32	5.2	4.7	3.8	2.2	12	3	2	6.4	32	2.8	7	3.5	12	8.1	25
	1974	365	24	5.3	3.9	4.2	2.0	11	4	3	5.7	20	3.5	12	3.8	12	8.3	24
	1973	363	21	5.6	4.0	4.4	2.0	11	4	3	5.4	19	4.1	10	4.5	18	8.4	21
	1972	152	22	6.5	4.2	5.3	2.0	13	6	3	-	-	-	-	4.6	15	7.8	22
Ukiah Non-Specified Location	1970	320	46	11.9	6.7	10.3	1.7	21	11	7	13.2	46	8.9	16	11.4	34	13.4	42
	1969	89	39	18.8	8.3	16.8	1.7	30	18	12	-	-	-	-	-	-	18.8	39
Ukiah Mendo Mill	1971	230	28	10.7	5.4	9.5	1.6	19	9	7	12.0	28	9.2	21	11.9	26	7.3	23
Willits	1971	243	49	13.7	7.7	11.9	1.7	26	11	8	16.3	49	8.4	14	17.3	32	10.7	20
	1970	356	53	15.9	8.2	13.9	1.7	27	14	9	16.6	35	13.7	44	15.5	44	17.6	53
	1969	60	44	22.5	12.0	19.2	1.8	40	21	12	-	-	-	-	-	-	22.5	44

Data prior to July 1, 1975 reflects an 0.8 factor applied to hourly concentrations.

BLM DISTRICT 4
POLLUTANT: Suspended Particulates by HI-VOL Method
Micrograms per Cubic Meter

STATION	YEAR	NO.OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	80%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Cloverdale	1975	56	99	47.8	23.9	40.6	1.6	76	45	29	-	-	-	-	-	-	-	-
	1974	53	146	53.1	23.7	48.5	1.5	84	49	37	-	-	-	-	-	-	-	-
	1973	49	136	45.6	23.9	40.6	1.6	75	40	27	-	-	-	-	-	-	-	-
Crescent City	1975	23	134	55.0	28.8	48.3	1.7	80	47	29	-	-	-	-	-	-	-	-
	1974	27	112	59.5	26.4	53.2	1.6	100	59	36	-	-	-	-	-	-	-	-
	1973	55	109	50.8	20.1	47.0	1.5	80	47	35	-	-	-	-	-	-	-	-
	1972	48	138	54.8	22.8	50.8	1.5	80	52	37	-	-	-	-	-	-	-	-
Eureka 6th & I Streets	1975	60	141	59.5	27.5	53.0	1.7	100	58	38	-	-	-	-	-	-	-	-
	1974	60	123	58.1	23.1	53.8	1.5	97	54	38	-	-	-	-	-	-	-	-
	1973	60	122	53.3	22.9	48.3	1.6	81	54	32	-	-	-	-	-	-	-	-
	1972	61	126	55.7	24.8	49.6	1.7	92	54	30	-	-	-	-	-	-	-	-
	1971	68	188	51.3	27.7	45.0	1.7	83	47	31	-	-	-	-	-	-	-	-
	1970	50	214	60.0	36.4	50.8	1.8	103	52	35	-	-	-	-	-	-	-	-
Eureka Hwy. Dept.	1975	59	162	68.6	32.1	59.5	1.8	106	67	41	-	-	-	-	-	-	-	-
	1974	61	148	69.3	31.1	62.4	1.6	122	64	43	-	-	-	-	-	-	-	-
	1973	31	135	63.1	31.4	55.7	1.7	124	58	39	-	-	-	-	-	-	-	-
	1972	12	115	58.3	29.5	49.1	2.0	8)	57	45	-	-	-	-	-	-	-	-
	1971	12	86	58.8	18.2	56.1	1.4	85	60	45	-	-	-	-	-	-	-	-
	1970	12	180	75.8	39.1	68.7	1.6	109	74	45	-	-	-	-	-	-	-	-

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4

POLLUTANT: Suspended Particulates by Hi-Vol Method
Micrograms Per Cubic Meter

STATION	YEAR	NO. OF OBS.	HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	80%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Fort Bragg South Main	1975	49	455	117.9	87.3	96.2	1.9	201	88	60	-	-	-	-	-	-	-	-
	1974	55	319	117.5	66.5	102.3	1.7	228	100	64	-	-	-	-	-	-	-	-
	1973	32	230	99.4	54.7	85.6	1.8	169	82	53	-	-	-	-	-	-	-	-
Hoopa	1973	11	164	91.7	50.7	79.4	1.8	161	71	56	-	-	-	-	-	-	-	-
Kelseyville	1975	7	52	21.3	17.4	16.3	2.2	52	13	9	-	-	-	-	-	-	-	-
	1974	57	147	39.8	26.9	32.2	2.0	66	35	21	-	-	-	-	-	-	-	-
Lakeport	1974	49	129	39.4	22.3	35.2	1.6	52	35	24	-	-	-	-	-	-	-	-
	1973	24	85	48.3	18.4	44.6	1.5	74	50	27	-	-	-	-	-	-	-	-
Lakeport - Lakeport Blvd.	1975	58	51	25.2	13.0	21.1	1.9	43	24	13	-	-	-	-	-	-	-	-
	1974	10	35	18.7	8.1	17.1	1.6	35	19	12	-	-	-	-	-	-	-	-
Napa - Jefferson St.	1975	59	107	58.1	20.2	54.5	1.5	86	59	38	-	-	-	-	-	-	-	-
	1974	89	180	61.7	25.2	56.6	1.6	89	59	43	-	-	-	-	-	-	-	-
	1973	113	109	60.1	20.3	56.1	1.5	86	63	42	-	-	-	-	-	-	-	-
	1972	90	213	71.7	31.0	65.5	1.6	112	69	48	-	-	-	-	-	-	-	-

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BLM DISTRICT 4
POLLUTANT: Suspended Particulates by Hi-Vol Method
Micrograms Per Cubic Meter

STATION	YEAR	NO. OF OBS.	ANNUAL HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD. DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD. DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	80%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Point Arena	1973	22	98	44.3	18.3	41.0	1.5	65	41	26	-	-	-	-	-	-	-	-
San Rafael	1975	64	87	43.5	16.6	40.6	1.5	70	41	30	-	-	-	-	-	-	-	-
	1974	88	112	46.4	16.8	43.5	1.4	64	45	35	-	-	-	-	-	-	-	-
	1973	115	122	49.9	17.9	46.9	1.4	74	47	34	-	-	-	-	-	-	-	-
	1972	130	113	58.3	20.1	54.7	1.5	76	56	43	-	-	-	-	-	-	-	-
	1971	130	125	48.7	21.8	44.3	1.6	77	44	30	-	-	-	-	-	-	-	-
Santa Rosa - Humboldt St.	1975	57	107	42.3	19.4	38.4	1.6	70	40	25	-	-	-	-	-	-	-	-
	1974	84	109	39.6	17.6	35.8	1.6	59	36	26	-	-	-	-	-	-	-	-
	1973	115	79	42.2	17.9	37.7	1.7	66	43	23	-	-	-	-	-	-	-	-
	1972	42	85	55.6	17.4	52.5	1.4	77	56	38	-	-	-	-	-	-	-	-
Ukiah Firehouse	1975	48	158	72.5	33.8	64.4	1.7	122	69	46	-	-	-	-	-	-	-	-
	1974	44	298	98.5	60.0	86.7	1.6	141	83	61	-	-	-	-	-	-	-	-
Ukiah Unspecified Location	1972	42	202	70.6	39.1	60.7	1.8	122	66	36	-	-	-	-	-	-	-	-
	1971	71	161	67.1	33.1	58.1	1.8	105	64	38	-	-	-	-	-	-	-	-
	1970	42	189	57.3	30.4	50.3	1.7	85	56	38	-	-	-	-	-	-	-	-
	1969	12	163	77.4	53.9	59.6	2.2	158	77	27	-	-	-	-	-	-	-	-

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

BLM DISTRICT 4
POLLUTANT: Suspended Particulates by HI-VOL Method
Micrograms per Cubic Meter

STATION	YEAR	NO.OF OBS.	ANNUAL HIGH	ANNUAL ARITHMETIC MEAN	ANNUAL ARITHMETIC STD.DEV.	ANNUAL GEOMETRIC MEAN	ANNUAL GEOMETRIC STD.DEV.	CONC. EQUALED OR EXCEEDED BY STATED % OF OBSERVATIONS 10%	50%	80%	QUARTERLY JAN. - MAR. ARITH. MEAN	JAN. - MAR. HIGH	APR. - JUN. ARITH. MEAN	APR. - JUN. HIGH	JUL. - SEPT. ARITH. MEAN	JUL. - SEPT. HIGH	OCT. - DEC. ARITH. MEAN	OCT. - DEC. HIGH
Vacaville	1975	8	105	62.0	23.9	58.4	1.4	105	53	44	-	-	-	-	-	-	-	-
Willits	1975	44	202	68.8	34.7	61.3	1.6	117	64	42	-	-	-	-	-	-	-	-
	1974	53	309	123	83.4	99.5	1.9	270	93	57	-	-	-	-	-	-	-	-
	1973	60	246	81.2	44.5	71.2	1.7	150	73	47	-	-	-	-	-	-	-	-
	1972	57	248	104.2	52.3	90.3	1.8	180	97	63	-	-	-	-	-	-	-	-
	1971	71	239	82.2	46.5	69.7	1.8	140	70	41	-	-	-	-	-	-	-	-

Some data prior to July 1, 1975 reflect an 0.8 factor applied to average hourly concentrations.

APPENDIX F

1976 - EMISSIONS DATA FOR THE UKIAH DISTRICT POINT SOURCES

COUNTY: DEL NORTE
AQCR: NORTH COAST (026)

SOURCE	Stack Height	Inside Stack Diameter	Exit Temp.	Exit Velocity	Vol. Flow Rate	Annual Tonnage Emission				
	Ft.	Ft.	F°	FPS	ACFM	TSP	SO_x	NO_x	HC	CO
NORTH CREST INC. CRESCENT CITY	-	-	500	-	-	53	0	7	46	460
PETERSON BROS. KLAMATH	35	-	400	-	-	36	0	4	24	234
SIMONSON LUMBER SMITH RIVER	-	-	-	-	-	321	0	26	171	1710
SIMPSON TIMBER CO. KLAMATH	-	-	400	-	-	113	0	11	73	731
STANDARD PLYWOOD CORP. CRESCENT CITY	-	-	300	-	-	173	0	12	75	751
U.S. FOREST SERVICE SIX RIVERS	-	-	700	-	-	831	0	83	1661	5400
CRESCENT CITY O.B. DUMP CRESCENT CITY	-	-	200	-	-	29	2	11	77	155
MEDFORD VENEER & PLYWOOD CRESCENT CITY	-	-	600	-	-	45	0	9	59	585
MILLER RELLIM REDWOOD CO. CRESCENT CITY	-	-	600	-	-	113	0	22	147	1470

COUNTY: COLUSA CO.
AQCR: SACRAMENTO VALLEY (028)

COLUSA GLEN DRYER MAXWELL	01	-	-	105	-	160000	126	0	0	0	0
	02	-	-	105	-	60000					
DUPUE DELEVAN DRYER DELEVAN	01	-	-	110	-	180000	111	0	0	0	0
	02	-	-	110	-	160000					
SACRAMENTO RIVER WAREHOUSE COLUSA		-	-	105	-	160000	141	0	0	0	0

COUNTY: MENDOCINO
AQCR: NORTH COAST (026)

SOURCE		Stack Height	Inside Stack Diameter	Exit Temp.	Exit Velocity	Vol. Flow Rate	Annual Tonnage Emission				
		Ft.	Ft.	F^{O}	FPS	ACFM	TSP	SO_x	NO_x	HC	CO
MASONITE - WESTERN LUMBER DIVISION CALPELA		-	-	600	-	-	132	0	27	172	1720
LOUISIAN PACIFIC VENEERS FT. BRAGG		-	-	70	-	-	134	0	0	0	0
CRAWFORD LUMBER PRODUCTS CALPELA		-	-	700	-	-	48	0	5	32	315
CUTTER LUMBER WILLETS	01	-	-	77	-	-					
	02	-	-	600	-	-	28	0	2	10	100
DIMMICK CO. PERRY		-	-	700	-	-	147	0	15	294	2940
LOUISIANA PACIFIC UKIAH		-	-	600	-	-	83	0	17	107	1070
HARWOOD PRODUCTS BRANSCOMB		-	-	400	-	-	496	0	50	322	3220
HOLLOW TREE LUMBER COMPANY UKIAH		-	-	400	-	-	200	0	20	130	1300
MASONITE HDBD. DIVISION UKIAH	01	-	-	400	-	-					
	02	60	1.0	350	-	2500					
	03	-	-	-	-	-					
	04	-	-	70	-	-	35	1	201	423	136
MC CORMICK & BAXTER HOPELAND		-	-	400	-	-	44	0	4	29	285
PHILO LUMBER CO. PHILO		-	-	400	-	-	187	0	16	106	1060
GEORGIA PACIFIC WILLETS	01	-	-	400	-	-					
	02	-	-	1000	-	-	35	28	17	30	304
WILLETS RDWD. PRODUCTS WILLETS	01	-	-	1000	-	-					
	02	-	-	400	-	-					
	03	-	-	-	-	-					
	04	-	-	-	-	-	86	2	19	126	1416

COUNTY: MENDOCINO

AQCR: NORTH COAST (026)

SOURCE	Stack Height	Inside Stack Diameter	Exit Temp.	Exit Velocity	Vol. Flow Rate	Annual Tonnage Emission				
	Ft.	Ft.	F^{o}	FPS	ACFM	TSP	SO_x	NO_x	HC	CO
LOUISIANA PACIFIC COVELO	-	-	400	-	-	159	0	29	111	1284
GEORGIA PACIFIC FT. BRAGG	-	-	400	-	-	1019	0	349	732	10507
LOUISIANA PACIFIC FT. BRAGG	-	-	600	-	-	50	0	10	65	650
LOUISIANA PACIFIC POTTER VALLEY 01 02	-	-	77 400	-	-	36	0	7	25	296
GEORGIA PACIFIC UKIAH 01 02	- -	- -	- 77	- -	- -	389	0	27	51	771
CASPER OPEN BURNING DUMP CASPER	-	-	-	-	-	35	2	13	92	186
LOUISIANA PACIFIC WILLETS	-	-	1000	-	-	5	0	5	56	663

COUNTY: LAKE CO.

AQCR: NORTH COAST (026)

No major emitters reported

COUNTY: NAPA CO.

AQCR: SAN FRANCISCO BAY AREA (030)

BASALT ROCK CO. NAPA - VALLEJO HIGHWAY	-	-	-	-	-	127	140	12	0	4

COUNTY: HUMBOLDT
AQCR: NORTH COAST (026)

SOURCE		Stack Height	Inside Stack Diameter	Exit Temp.	Exit Velocity	Vol. Flow Rate	Annual Tonnage Emission				
		Ft.	Ft.	F°	FPS	ACFM	TSP	SO_x	NO_x	HC	CO
CROWN SIMPSON FAIRHAVEN		-	-	200	-	-	1559	2240	1105	220	937
CROWN SIMPSON PULP MILL FAIRHAVEN	01	-	-	200	-	-					
	02	-	-	200	-	-	1833	1301	883	95	5342
	03	323	12.0	425	-	210000					
ENEVOLDSEN LUMBER FORTUNA		-	-	600	-	-	22	0	5	8	284
ENGLEWOOD LUMBER REDCREST	01	-	-	400	-	-	47	0	6	37	374
	02	-	-	500	-	-					
FORTUNA WOOD PRODUCTS FORTUNA	01	-	-	600	-	-	48	0	9	57	569
	02	-	-	77	-	-					
FORTUNA VENEER FORTUNA	01	-	-	600	-	-					
	02	-	-	600	-	-					
	03	-	-	700	-	-	71	0	11	114	654
	04	-	-	600	-	-					
	05	-	-	-	-	-					
	06	-	-	77	-	-					
LOUISIANA PACIFIC ALDERPOINT		-	-	600	-	-	88	0	18	114	1140
LOUISIANA PACIFIC CARLOTTA	01	-	-	535	-	-	200	0	20	130	1296
	02	-	-	535	-	-					
LOUISIANA PACIFIC BIG LAGOON		-	-	400	-	-	200	0	20	130	1300
LOUISIANA PACIFIC SAMOA	01	76	7.5	465	-	186000					
	02	82	5.0	172	-	-					
	03	297	11.0	170	-	-	1752	0	595	130	5369
	04	-	-	-	-	-					
	05	-	-	77	-	-					
	06	60	6.5	-	-	-					
HOOPA VENEER CO. HOOPA		-	-	600	-	-	91	0	18	118	1180

COUNTY: HUMBOLDT

AQCR: NORTH COAST (026)

SOURCE	Stack Height	Inside Stack Diameter	Exit Temp.	Exit Velocity	Vol. Flow Rate	Annual Tonnage Emission				
	Ft.	Ft.	F^{o}	FPS	ACFM	TSP	SO_x	NO_x	HC	CO
HUMBOLDT FLAKEBOARD ARCATA	- 60	4.0 2.7	- -	- -	- -	978	0	103	206	21
MC ALLISTER LATH BAYSIDE	-	-	600	-	-	13	0	3	17	169
MC INTOSH LUMBER BLUELAKE	-	-	500	-	-	75	0	10	65	650
MISSION FENCE ARCATA	-	-	600	-	-	11	0	2	14	143
MORRISON AND JACKSON MYERS FLAT	-	-	600	-	-	25	0	5	32	319
ORLEANS VENEER "A" ARCATA	-	-	600	-	-	23	0	5	29	293
ORLEANS VENEER "B" ARCATA	-	-	-	-	-	98	0	3	38	163
PG&E 01 HUMBOLDT BAY - 02 EUREKA	120 120	10.0 10.0	320 320	- -	208500 208500	26	64	936	4	28
PACIFIC LUMBER 01 COMPANY 02 SCOTIA 03 04 05 06 07	80 80 80 80 80 - -	9.0 9.0 9.0 9.0 9.0 - -	450 450 450 450 450 - -	- - - - - - -	32000 32000 32000 40000 64000 - -	861	0	731	155	145
ROCKLIN VENEER WILLOW CREEK	-	-	500	-	-	53	0	7	46	455
SIMPSON TIMBER FAIRHAVEN	-	-	-	-	-	155	0	105	45	21

COUNTY: HUMBOLDT
AQCR: NORTH COAST (026)

SOURCE	Stack Height	Inside Stack Diameter	Exit Temp.	Exit Velocity	Vol. Flow Rate	Annual Tonnage Emission				
	Ft.	Ft.	F^{o}	FPS	ACFM	TSP	SO_x	NO_x	HC	CO
SIMPSON TIMBER KORBEL	- -	- -	600 77	- -	- -	147	0	46	137	1370
SIMPSON TIMBER MAD RIVER	-	-	300	-	-	210	0	165	69	33
TWIN HARBOR LUMBER DINSMORE	-	-	600	-	-	125	-	25	163	1630
REDWOOD EMPIRE AGGREGATE	-	-	77	-	-	264	0	0	0	0
SIERRA PACIFIC 01 IND. 02 ARCATA	- -	- -	600 77	- -	- -	69	0	13	81	813
EEL RIVER SAWMILL FORTUNA	-	-	-	-	-	24	0	3	21	208
ARCATA REDWOOD 01 BRAINARD 02 03	- - -	- - -	- 600 77	- - -	- - -	137	0	23	5	9
ARCATA REDWOOD 01 ORICK 02 (2 plant sites)	- -	- -	600 700	- -	- -	204	0	41	264	2641
CAL PACIFIC HOOPA	65	-	600	-	-	50	0	10	65	650
CAL PACIFIC ORICK	65	-	400	-	-	88	0	9	48	569
CARLOTTA LUMBER CARLOTTA	-	-	400	-	-	160	0	17	104	1041
CAROLINA 01 PACIFIC 02 SALYER	- -	- -	400 300	- -	- -	213	0	42	134	1245

COUNTY: SANOMA CO.
AQCR: SAN FRANCISCO BAY AREA (030)

SOURCE	Stack Height	Inside Stack Diameter	Exit Temp.	Exit Velocity	Vol. Flow Rate	Annual Tonnage Emission				
	Ft.	Ft.	F°	FPS	ACFM	TSP	SO_x	NO_x	HC	CO
ROLANDO LUMBER CO. 01	45	-	-	-	-	94	0	4	25	254
CLOVERDALE 02	-	-	77	-	-					
MASONITE LUMBER COMPANY CLOVERDALE	-	-	-	-	-	902	0	77	497	4970
DRY CREEK SAND & GRAVEL HEALDSBURG	-	-	-	-	-	160	0	0	0	0
OCCIDENTAL OPEN BURNING DUMP OCCIDENTAL	-	-	-	-	-	35	2	13	92	186
ANNAPOLIS MILLING ANNAPOLIS	50	-	400	-	-	21	0	2	14	135
BASALT ROCK CO. HEALDSBURG	-	-	-	-	-	139	0	2	1	1
CHENOWETH LUMBER COMPANY BODEGA	50	-	-	-	-	52	0	5	34	338
CLOVERDALE LUMBER CO., REDWOOD HWY.	50	-	-	-	-	179	0	18	116	1160
CLOVERDALE	-	-	77	-	-					
CLOVERDALE PLYWOOD MC KAY RD. CLOVERDALE	50	-	-	-	-	267	0	40	164	1630
LOUISIANA PACIFIC CORP. CLOVERDALE	50	-	-	-	-	377	0	59	227	2593
IDACO LUMBER CO. HEALDSBURG	-	-	-	-	-	114	0	4	24	237

COUNTY: MARIN CO.
AQCR: SAN FRANCISCO BAY AREA (030)

NO MAJOR SOURCES REPORTED

COUNTY: SOLANO CO.

AQCR: SAN FRANCISCO BAY AREA (030)

SOURCE	Stack Height	Inside Stack Diameter	Exit Temp.	Exit Velocity	Vol. Flow Rate	Annual Tonnage Emission Rat				
	Ft.	Ft.	F^O	FPS	ACFM	TSP	SO_x	NO_x	HC	CO
EXXON CO. BENECIA	-	-	-	-	-	1859	13045	5126	3962	6586
CARGIL, INC.	-	-	50	-	-	181	0	0	0	0
DIXON DRYER DIXON	-	-	200	-	-	150	0	0	0	0
AMERICAN HOME FOODS VACAVILLE	-	-	-	-	-	12	-	162	35	0
MARE ISLAND 01	210	15.0	560	-	-					
NAVAL 02	210	15.0	-	-	-					
SHIPYARD 03	210	15.0	550	-	-					
VALLEJO 04	210	15.0	550	-	-					
05	210	15.0	550	-	-					
06	210	15.0	550	-	-					
						48	0	774	142	96
TRAVIS AFB FAIRFIELD	-	-	-	-	-	6	0	9	139	6

COUNTY: YOLO

AQCR: SACRAMENTO VALLEY (028)

SOURCE		Stack Height	Inside Stack Diameter	Exit Temp.	Exit Velocity	Vol. Flow Rate	Annual Tonnage Emission				
		Ft.	Ft.	F^{O}	FPS	ACFM	TSP	SO_x	NO_x	HC	CO
AM STAR CORP. SPRECKLES SUGAR WOODLAND		-	-	-	-	-	729	3	279	28	16
DIXON DRYER CLARKSBURG		-	-	200	-	-	400	0	0	0	0
FARMERS RICE COOP. W. SACRAMENTO	01 02 03	- - -	- - -	77 77 160	- - -	- - -	433	0	0	0	0
PACIFIC INTERN. RICE MILLS WOODLAND	01 02 03 04	- - - -	- - - -	77 120 77 77	- - - -	- - - -	250	0	0	0	0
RICE GROWERS ASSOC. W. SACRAMENTO S. RIVER PLANT	01 02 03 04 05	- - - - -	- - - - -	77 77 77 77 -	- - - - -	- - - - -	1076	0	0	0	0
CARGILL OF CALIF., INC. W. SACRAMENTO	01 02 03	- - -	- - -	77 77 77	- - -	- - -	134	0	0	0	0
SACRAMENTO - YOLO PORT DIST. TERMINAL, W. SACRAMENTO	01 02 03 04 05	- - - - -	- - - - -	77 77 77 77 77	- - - - -	- - - - -	125	0	0	0	0
ADAMS SCHWAB ADAMS DAVIS	01 02 03 04 05 06 07 08	- - - - - - - -	- - - - - - - -	77 77 77 77 77 77 77 77	- - - - - - - -	- - - - - - - -	809	0	0	0	0

APPENDIX G

1976 - EMISSIONS DATA FOR THE UKIAH DISTRICT AREA SOURCES

COUNTY: COLUSA

SOURCE:	TONS/YR				
	TSP	SO_x	NO_x	HC	CO
FUEL COMBUSTION (External) - TOTAL	14	8	41	9	12
Residential Fuel - Total	10	2	20	8	10
Distillate Oil	0	1	0	0	0
Natural Gas	2	0	17	2	4
Wood	8	0	3	6	6
Industrial Fuel - Total	2	3	10	0	1
Residual Oil	1	3	4	0	0
Natural Gas	0	0	6	0	1
Comm-Institutional Fuel - Total	2	4	10	1	1
Residual Oil	1	2	3	0	0
Distillate Oil	1	1	2	0	0
Natural Gas	0	0	5	0	1
SOLID WASTE DISPOSAL - TOTAL	29	1	5	71	210
Residential - Total	28	1	4	69	205
On-Site Incineration	18	0	1	50	150
Open Burning	10	1	4	20	55
Commercial-Institutional - Total	1	0	0	2	5
On-Site Incineration	0	0	0	0	1
Open Burning	1	0	0	2	4
TRANSPORTATION - TOTAL	221	87	2087	2545	14801
Land Vehicles					
Gasoline - Total	185	53	1742	2314	14441
Light Vehicles	167	47	1536	1969	11640
Heavy Vehicles	16	5	182	274	2007
Off Highway	2	1	25	70	794
Diesel - Total	28	31	329	41	116
Heavy Vehicles	6	7	69	7	40
Off Highway	20	18	221	24	62
Rail	3	6	39	10	14

COUNTY: COLUSA

SOURCE:	TONS/YR TSP	SO_x	NO_x	HC	CO
Aircraft - Total	7	1	6	30	171
Civil	7	1	6	30	171
Vessels - Total	1	1	10	24	73
Diesel Fuel	1	1	9	2	3
Gasoline	0	0	1	22	70
Gas Handling Evap. Loss	0	0	0	136	0
MISCELLANEOUS - TOTAL	32	0	4	316	113
Slash Burning	32	0	4	38	113
Solvent Evaporation Loss	0	0	0	278	0
GRAND TOTAL FOR COLUSA COUNTY	296	96	2136	2941	15136

COUNTY: DEL NORTE

SOURCE:	TONS/YR TSP	SO_x	NO_x	HC	CO
FUEL COMBUSTION (EXTERNAL) - TOTAL	129	30	92	97	100
Residential Fuel - Total	121	15	58	96	97
Distillate Oil	3	8	3	1	1
Natural Gas	1	0	8	1	2
Wood	118	7	47	94	94
Industrial Fuel - Total	6	11	28	1	2
Residual Oil	5	11	14	1	1
Natural Gas	1	0	13	0	1
Comm-Institutional Fuel - Total	2	4	7	0	0
Residual Oil	1	3	4	0	0
Distillate Oil	1	1	3	0	0
SOLID WASTE DISPOSAL - TOTAL	33	1	5	81	240
Residential - Total	32	1	5	79	235
On Site Incineration	21	0	1	58	175
Open Burning	11	1	4	21	60
Commercial-Institutional - Total	1	0	0	2	5
On Site Incineration	0	0	0	0	1
Open Burning	1	0	0	2	4
TRANSPORTATION - TOTAL	116	59	1161	2238	10755
Land Vehicles					
Gasoline	95	28	903	1218	7782
Light Vehicles	85	24	785	1006	5948
Heavy Vehicles	8	3	93	140	1026
Off Highway	2	1	25	71	807
Diesel - Total	18	23	217	30	89
Heavy Vehicles	7	9	80	8	47
Off Highway	8	7	89	10	25
Rail	3	7	48	12	17
Aircraft - Total	1	0	1	6	37
Civil	1	0	1	6	37
Vessels - Total	1	8	40	898	2848
Diesel Fuel	1	2	13	4	5
Gasoline	0	6	26	894	2843
Gas Handling Evap. Loss	0	0	0	86	0

COUNTY: DEL NORTE

SOURCE:	TONS/YR TSP	SO_x	NO_x	HC	CO
MISCELLANEOUS - TOTAL	344	0	61	1028	2043
Forest Fires	176	0	41	248	1449
Slash Burning	168	0	20	198	594
Solvent Evaporation Loss	0	0	0	582	0
GRAND TOTAL FOR DEL NORTE COUNTY	623	90	1320	3445	13138

COUNTY: HUMBOLDT

SOURCE:	TONS/YR TSP	SO_X	NO_X	HC	CO
FUEL COMBUSTION (EXTERNAL) - TOTAL	376	118	564	268	308
Residential Fuel - Total	324	33	280	257	281
Distillate Oil	5	14	6	1	2
Natural Gas	19	1	154	15	39
Wood	300	18	120	240	240
Industrial Fuel - Total	35	59	190	6	16
Residual Oil	28	58	73	4	5
Natural Gas	6	0	116	2	11
Comm-Institutional Fuel - Total	18	27	94	6	12
Residual Oil	9	18	22	1	1
Distillate Oil	4	9	18	1	1
Natural Gas	4	0	54	4	9
SOLID WASTE DISPOSAL - TOTAL	232	9	38	563	1661
Residential - Total	219	7	33	543	1605
On Site Incineration	142	2	4	399	1197
Open Burning	77	5	29	144	408
Commercial-Institutional - Total	8	1	3	13	37
On Site Incineration	2	1	1	1	3
Open Burning	6	0	2	12	34
Industrial - Total	4	1	2	7	19
On Site Incineration	1	0	0	1	2
Open Burning	3	0	1	6	17
TRANSPORTATION - TOTAL	597	501	5799	9664	49811
Land Vehicles					
Gasoline - Total	434	127	4050	5840	39527
Light Vehicles	382	107	3468	4695	29077
Heavy Vehicles	36	12	410	659	4938
Off Highway	15	8	172	486	5513
Diesel - Total	120	156	1445	208	642
Heavy Vehicles	46	58	538	61	363
Off Highway	52	46	576	63	162
Rail	22	51	331	84	116

COUNTY: HUMBOLDT

SOURCE:	TONS/YR TSP	SO_X	NO_X	HC	CO
Aircraft - Total	12	2	11	53	305
Civil	12	2	11	53	305
Vessels - Total	31	216	293	2966	9337
Diesel Fuel	20	24	183	48	64
Residual Oil	12	172	25	2	1
Gasoline	0	20	86	2916	9272
Gas Handling Evap. Loss	0	0	0	596	0
MISCELLANEOUS - TOTAL	548	0	108	4051	3678
Forest Fires	371	0	87	523	3052
Slash Burning	177	0	21	209	626
Solvent Evaporation Loss	0	0	0	3319	0
GRAND TOTAL FOR HUMBOLDG COUNTY	1752	628	6509	14546	55458

COUNTY: LAKE

SOURCE:	TONS/YR. TSP	SO_x	NO_x	HC	CO
FUEL COMBUSTION (External) - TOTAL	50	16	53	37	41
Residential Fuel - Total	47	11	45	36	41
Distillate Oil	3	9	4	1	2
Natural Gas	3	0	25	3	6
Wood	41	2	17	33	33
Comm-Institutional Fuel - Total	2	5	7	0	0
Residual Oil	2	3	4	0	0
Distillate Oil	1	2	3	0	0
SOLID WASTE DISPOSAL - TOTAL	44	2	7	109	320
Residential - Total	42	1	6	105	311
On-Site Incineration	28	0	1	78	235
Open Burning	14	1	5	27	77
Commercial-Institutional-Total	1	0	0	2	5
On-Site Incineration	0	0	0	0	1
Open Burning	1	0	0	2	4
Industrial - Total	1	0	0	2	4
Open Burning	1	0	0	2	4
TRANSPORTATION - TOTAL	142	72	1410	1888	9718
Land Vehicles					
Gasoline - Total	107	31	1031	1337	8377
Light Vehicles	94	26	885	1074	6019
Heavy Vehicles	9	3	105	148	1057
Off Highway	4	2	41	115	1301
Diesel - Total	30	38	365	50	132
Heavy Vehicles	9	11	110	11	55
Off Highway	16	14	179	20	50
Rail	5	12	76	19	27

COUNTY: LAKE

SOURCE:	TONS/YR. TSP	SO_X	NO_X	HC	CO
Aircraft - Total	5	1	5	23	131
Civil	5	1	5	23	131
Vessels - Total	0	2	10	339	1077
Gasoline	0	2	10	339	1077
Gas Handling Evap. Loss	0	0	0	140	0
MISCELLANEOUS - TOTAL	4481	0	1054	6735	36870
Forest Fires	4474	0	1053	6316	36842
Slash Burning	8	0	1	9	27
Solvent Evaporation Loss	0	0	0	410	0
GRAND TOTAL FOR LAKE COUNTY	4718	90	2524	8768	46950

COUNTY: MARIN

SOURCE:	TONS/YEAR TSP	SO_X	NO_X	HC	CO
FUEL COMBUSTION (EXTERNAL) - TOTAL	102	65	219	13	27
Residential Fuel - Total	45	8	264	36	77
Bituminous Coal	1	3	0	1	3
Distillate Oil	1	3	1	0	0
Natural Gas	32	2	258	26	65
Wood	11	1	5	9	9
Industrial Fuel - Total	10	21	27	1	2
Residual Oil	5	0	93	2	9
Natural Gas	15	22	119	3	11
Comm.-Institutional Fuel - Total	42	65	219	13	27
Residual Oil	21	43	54	3	4
Distillate Oil	11	21	44	2	3
Natural Gas	10	1	121	8	20
SOLID WASTE DISPOSAL - TOTAL	488	19	82	1180	3477
Residual - Total	453	15	69	1125	3325
On-Site Incineration	293	5	9	825	2475
Open Burning	160	10	60	300	850
Comm.-Institutional - TOTAL	18	2	7	28	78
On-Site Incineration	4	1	1	3	6
Open Burning	14	1	5	26	72
Industrial - TOTAL	18	2	7	27	75
On-Site Incineration	5	2	2	3	7
Open Burning	13	1	5	24	68
TRANSPORTATION - TOTAL	1119	605	10238	17816	114996
Land Vehicles					
Gasoline - Total					
Light Vehicles	748	209	6243	10919	80096
Heavy Vehicles	71	23	735	1578	12909
Off Highway	30	248	7317	13455	103868
Diesel - Total	218	293	2523	425	1644
Heavy Vehicles	95	121	989	161	1166
Off Highway	78	70	867	95	244
Rail	45	103	666	169	234
Aircraft - Total	21	4	19	91	520
Civil	21	4	19	91	520

COUNTY: MARIN

SOURCE:	TSP	SO_X	NO_X	HC	CO
Vessels - Total	32	59	380	2865	8964
Diesel Fuel	32	40	298	78	104
Gasoline	0	19	82	2786	8859
Gas Handling Evap. Loss	0	0	0	980	0
MISCELLANEOUS - TOTAL	37	0	9	5371	301
Forest Fires	37	0	9	52	301
Solvent Evaporation Loss	0	0	0	5319	0
GRAND TOTAL FOR MARIN COUNTY	1747	718	10932	24418	118889

COUNTY: MENDOCINO

SOURCE:	TONS/YEAR				
	TSP	SO_X	NO_X	HC	CO
FUEL COMBUSTION (External) - TOTAL	253	86	259	182	196
Residential Fuel - Total	228	39	145	178	187
Distillate Oil	9	26	11	3	5
Natural Gas	6	0	50	5	12
Wood	213	13	85	170	170
Industrial Fuel - Total	19	34	88	3	7
Residual Fuel	16	34	42	2	3
Natural Gas	3	0	46	1	4
Comm.-Industrial Fuel - Total	7	13	25	1	2
Residual Oil	4	9	11	1	1
Distillate Oil	2	4	9	0	1
Natural Gas	0	0	5	0	1
SOLID WASTE DISPOSAL - TOTAL	119	4	20	290	855
Residential - Total	113	4	17	280	827
On-Site Incineration	73	1	2	205	614
Open Burning	40	2	15	75	213
Comm.-Institutional	4	1	2	7	19
On Site Incineration	1	0	0	1	2
Open Burning	3	0	1	6	17
Industrial - Total	2	0	1	3	9
On Site Incineration	0	0	0	0	1
Open Burning	2	0	1	3	9
TRANSPORTATION - TOTAL	436	202	3828	6838	33853
Land Vehicles					
Gasoline - Total	305	89	2888	3916	25219
Light Vehicles	271	76	2498	3204	18938
Heavy Vehicles	26	8	296	447	3266
Off Highway	8	4	94	266	3015
Diesel - Total	68	86	821	114	330
Heavy Vehicles	23	30	282	30	165
Off Highway	33	29	362	40	102
Rail	12	27	178	45	62

COUNTY: MENDOCINO

SOURCE:	TONS/YEAR				
	TSP	SO_X	NO_X	HC	CO
Aircraft - Total	63	12	55	272	1522
Military	3	1	1	7	7
Civil	60	12	54	265	1514
Vessels - Total	0	14	63	2133	6783
Gasoline	0	14	63	2133	6783
Gas Handling Evap. Loss	0	0	0	403	0
MISCELLANEOUS - TOTAL	3518	0	822	6697	28746
Forest Fires	3470	0	816	4899	28576
Slash Burning	48	0	6	57	170
	0	0	0	1742	0
GRAND TOTAL FOR MENDOCINO COUNTY	4327	293	4928	14007	63649

COUNTY: NAPA

SOURCE:	TONS/YEAR				
	TSP	SO_x	NO_x	HC	CO
FUEL CONSUMPTION (External) - TOTAL	64	60	374	30	64
Residential Fuel - Total	26	4	128	20	39
Distillate Oil	1	2	1	0	0
Natural Gas	15	1	123	12	31
Wood	10	1	4	8	8
Industrial Fuel - Total	23	35	158	4	14
Residual Oil	17	34	43	2	3
Natural Gas	6	0	115	2	11
Comm.-Institutional Fuel - Total	15	22	88	5	11
Residual Oil	7	14	18	1	1
Distillate Oil	4	7	14	1	1
Natural Gas	5	0	55	4	9
SOLID WASTE DISPOSAL - TOTAL	186	7	31	451	1328
Residential - Total	174	6	27	432	1278
On Site Incineration	113	2	4	317	950
Open Burning	62	4	23	116	327
Commercial - Institutional-Total	7	1	3	12	32
On Site Incineration	2	1	1	1	2
Open Burning	6	0	2	11	30
Industrial - Total	4	1	2	7	19
On Site Incineration	1	0	0	1	2
Open Burning	3	0	1	6	17
TRANSPORTATION - TOTAL	486	239	4377	5628	35186
Land Vehicles					
Gasoline - Total	342	100	3152	4791	33566
Light Vehicles	301	84	2689	3840	24787
Heavy Vehicles	29	9	318	543	4154
Off Highway	13	7	145	408	4625
Diesel - Total	97	127	1164	173	550
Heavy Vehicles	36	46	418	51	320
Off Highway	42	38	469	51	132
Rail	19	43	277	70	97

COUNTY: NAPA

SOURCE:	TONS/YEAR TSP	SO_X	NO_X	HC	CO
Aircraft - Total	45	10	51	192	906
Military	11	2	5	25	27
Civil	33	7	30	146	837
Commercial	1	2	15	20	42
Vessels - Total	1	2	10	53	164
Diesel Fuel	1	1	9	2	3
Gasoline	0	0	1	51	161
Gas Handling Evap. Loss	0	0	0	419	0
MISCELLANEOUS - TOTAL	77	0	17	2404	604
Forest Fires	71	0	17	100	581
Slash Burning	7	0	1	8	23
Solvent Evaporation Loss	0	0	0	2297	0
GRAND TOTAL FOR NAPA COUNTY	813	306	4799	8513	37183

COUNTY: SOLANO

SOURCE:	TONS/YEAR TSP	SO_x	NO_x	HC	CO
FUEL COMBUSTION (External) - TOTAL	126	766	553	51	102
Residential Fuel - Total	42	7	215	33	68
Bituminous Coal	1	2	0	1	4
Distillate Oil	1	3	1	0	0
Natural Gas	26	2	208	21	52
Wood	14	1	6	11	11
Industrial Fuel - Total	10	87	42	2	3
Residual Oil	6	80	17	1	1
Distillate Oil	3	6	13	1	1
Natural Gas	1	0	12	0	1
Comm. Institutional Fuel-Total	74	673	296	17	31
Residual Oil	52	648	136	7	9
Distillate Oil	12	24	49	2	3
Natural Gas	9	1	111	7	18
SOLID WASTE DISPOSAL - TOTAL	403	16	68	973	2868
Residential - Total	373	12	57	926	2738
On Site Incineration	242	4	8	680	2041
Open Burning	131	8	49	246	697
Comm.-Institutional - Total	14	2	5	23	64
On Site Incineration	3	1	1	2	5
Open Burning	11	1	4	21	60
Industrial - Total	15	2	6	24	65
On Site Incineration	4	1	1	3	6
Open Burning	11	1	4	21	60
TRANSPORTATION - TOTAL	1180	644	10805	16149	105057
Land Vehicles					
Gasoline - Total	876	250	7475	13418	100079
Light Vehicles	795	223	6635	11605	85131
Heavy Vehicles	80	26	827	1775	14520
Off Highway	1	1	13	38	427
Diesel - Total	209	269	2418	390	1402
Heavy Vehicles	73	92	758	123	894
Off Highway	97	87	1076	118	303
Rail	40	90	585	149	205
Aircraft - Total	0	0	0	0	1
Civil	0	0	0	0	1

COUNTY: SOLANO					
	TONS/YEAR				
SOURCE:	TSP	SO_X	NO_X	HC	CO
Vessels - Total	94	125	912	1259	3575
Diesel Fuel	94	118	881	231	309
Gasoline	0	7	30	1027	3266
Gas Handling Evap. Loss	0	0	0	1082	0
MISCELLANEOUS - TOTAL	0	0	0	850	0
Solvent Evaporation Loss	0	0	0	850	0
GRAND TOTAL FOR SOLANO COUNTY	1708	1426	11426	18023	108026

COUNTY: SONOMA

SOURCE:	TONS/YEAR				
	TSP	SO_X	NO_X	HC	CO
FUEL COMBUSTION (External) - Total	200	117	777	123	200
Residential Fuel - Total	133	15	373	105	157
Bituminous Coal	0	1	0	0	1
Distillate Oil	2	6	2	1	1
Natural Gas	42	3	336	34	84
Wood	89	5	36	71	71
Industrial Fuel - Total	28	42	193	5	17
Residual Oil	20	41	52	3	3
Natural Gas	8	0	141	2	13
Comm.-Institutional Fuel-Total	40	61	211	12	26
Residual Oil	20	41	51	3	3
Distillate Oil	10	20	41	2	3
Natural Gas	10	1	118	8	20
SOLID WASTE DISPOSAL - TOTAL	478	18	79	1162	3427
Residential - Total	450	14	69	1117	3303
On Site Incineration	292	5	9	820	2461
Open Burning	158	10	59	297	842
Comm.-Inst. - Total	18	2	7	28	78
On Site Incineration	4	1	1	3	6
Open Burning	14	1	5	26	72
Industrial - Total					
On Site Incineration	3	1	1	2	4
Open Burning	8	0	3	15	43
TRANSPORTATION - TOTAL	1238	666	11953	16202	96100
Land Vehicles					
Gasoline - Total	917	269	8443	12837	89976
Light Vehicles	806	226	7201	10282	66369
Heavy Vehicles	77	25	851	1453	11121
Off-Highway	34	18	391	1101	12486
Diesel - Total					
Heavy Vehicles	94	120	1091	133	829
Off Highway	115	103	1273	139	359
Rail	51	115	749	190	263

COUNTY: SONOMA

SOURCE:	TONS/YEAR				
	TSP	SO_x	NO_x	HC	CO
Aircraft - Total	28	10	66	160	637
Military	5	1	2	12	12
Civil	20	4	18	87	499
Commercial	3	5	46	61	125
Vessels - Total	33	49	340	1316	4036
Diesel Fuel	33	41	304	80	106
Gasoline	0	8	36	1236	3929
Gas Handling Evap. Loss	0	0	0	1428	0
MISCELLANEOUS - TOTAL	504	0	119	7188	4154
Forest Fires	504	0	119	712	4154
Solvent Evaporation Loss	0	0	0	6476	0
GRAND TOTAL FOR SONOMA COUNTY	2421	801	12928	24675	103881

COUNTY: YOLO

SOURCE:	TONS/YEAR TSP	SO_X	NO_X	HC	CO
FUEL COMBUSTION (External) - TOTAL	70	452	316	26	53
Residential Fuel - Total	21	6	117	16	33
Distillate Oil	2	5	2	0	1
Natural Gas	14	1	113	11	28
Wood	5	0	2	4	4
Industrial Fuel - Total	10	82	39	2	3
Residual Oil	6	76	16	1	1
Distillate Oil	3	6	13	1	1
Natural Gas	1	0	11	0	1
Comm.-Institutional - Total	40	364	160	9	17
Residual Oil	28	351	73	4	5
Distillate Oil	7	13	27	1	2
Natural Gas	5	0	60	4	10
SOLID WASTE DISPOSAL - TOTAL	217	8	36	524	1546
Residential - Total	202	6	31	501	1481
On-Site Incineration	131	2	4	368	1103
Open Burning	71	4	27	134	378
Commercial - Institutional	8	1	3	13	37
On-Site Incineration	2	1	1	1	3
Open Burning	6	0	2	12	34
Industrial - Total	6	1	2	10	28
On-Site Incineration	2	1	1	1	2
Open Burning	5	0	2	9	26
TRANSPORTATION - TOTAL	651	411	6151	7829	49318

COUNTY: YOLO

SOURCE:	TONS/YEAR				
	TSP	SO_X	NO_X	HC	CO
Land Vehicles					
Gasoline - Total	474	135	4187	6800	48147
Light Vehicles	430	120	3711	5875	40683
Heavy Vehicles	43	14	463	889	7058
Off Highway	1	1	13	36	406
Diesel - Total	157	184	1811	258	825
Heavy Vehicles	39	50	430	61	414
Off Highway	96	86	1066	117	301
Rail	21	48	314	80	110
Aircraft - Total	0	0	0	0	1
Civil	0	0	0	0	1
Vessels - Total	20	91	153	131	345
Diesel Fuel	15	19	140	37	49
Residual Oil	5	71	10	1	0
Gasoline	0	1	3	93	296
Gas Handling Evap. Loss	0	0	0	641	0
MISCELLANEOUS - TOTAL	0	0	0	229	0
Solvent Evaporation Loss	0	0	0	229	0
GRAND TOTAL FOR YOLO COUNTY	938	870	6504	8609	50916

APPENDIX H

SUMMARY ANALYSIS

UNITED STATES COURT OF APPEALS, D.C. CIRCUIT

JUNE 18, 1979 DECISION

ALABAMA POWER COMPANY, ET AL. V. USEPA ET AL.

I. INTRODUCTION

On June 18, 1979 the U. S. Court of Appeals for the District of Columbia Circuit issued an opinion. This opinion summarized the Court's rulings on a number of actions brought against EPA by both industry and environmental groups who were contesting specific sections of the final PSD regulations as promulgated by the EPA on June 19, 1978. The Court is expected to issue its detailed opinions before the end of the summer and indicated that the purpose of issuing the expedited judgement was "...to enable EPA to proceed as soon as possible to commence rulemaking or other proceedings necessary to promulgate those revisions in the PSD regulations required by our rulings, and to take other prudent action to effectuate congressional policies."

As discussed in the subsequent sections of this analysis, the Court s action will result in a number of substantive and significant changes to the PSD regulations. However, during the period between June 18 and the time the more detailed opinions are rendered by the Court, the EPA will continue to review and issue PSD permits consistent with the regulations as promulgated on June 19 1978. It is expected that EPA will include in each permit a caveat stating that the conditions of the permit would be subject to change based upon the mandates contained in the Courts detailed decision and the associated rulemaking actions implemented by EPA. This action by EPA has been taken to prevent an immediate "shutdown" of the PSD permit licensing process with the associated implications such a moratorium would have on existing applications and new construction plans.

It is not clear exactly what will happen after the detailed opinions are rendered. It is hoped, however, that the Court in its detailed opinion will provide EPA with the necessary latitude of authority to facilitate the continued issuance of PSD permits during the transitional period while the new regulations are

being developed and promulgated. An additional area of uncertainty which could result from this decision will be the impact of the decision on those PSD permits that have been issued between June 19, 1978 and June 18, 1979, as well as the impact the decision could have on other EPA regulations (e.g. non-attainment area regulations) which include certain definitions and policy interpretations taken directly from portions of the PSD regulations that were affected by this decision. The Court has indicated in the summary decision that it would "...entertain... narrowly focused petitions for reconsideration...."but would not "...look with favor on arguments that merely reiterate those made previously...." Therefore, a possibility does exist that certain portions of the opinion rendered in the summary decision could be modified in the forthcoming detailed decision. Furthermore, the decision or portions thereof could be appealed to the Supreme Court.

In the subsequent discussion, EAI will outline the potential implications of the summary decision to applicants currently attempting to obtain a PSD permit as well as to those who have obtained PSD permits prior to June 18, 1979. Final determinations respecting the impact that the Court decision will have on individual permit activities should be made after the detailed opinion is rendered and EPA concludes the pertinent rulemaking actions necessary to implement the decision.

Brief highlights of the major rulings and their implications to PSD permit applicants and the permitting process are presented following. The decision:

- Remanded EPA's definition of "potential to emit". Requires the definition to include consideration of air pollution control equipment in calculation of emissions. Decision should decrease the number of sources subject to the PSD review process.

- Remanded EPA's general exemption for stationary sources that have actual emission of less than 50 tons/year. In light of the Courts modification of the "potential to

emit" definition, it appears unlikely, EPA will repromulgate a regulation that provides a two-tier review process, as contemplated by this remanded regulation.

- Instructed EPA to utilize the definition of stationary source as specified in Section 111(a)(3) of the Clean Air Act. While the definition would be limited to the terms, "building, structure, facility, or installation", EPA could define these terms in a manner which would accomplish the overall intent of the remanded EPA definition of "stationary source".

- Upheld EPA's authority to regulate fugitive emissions under the PSD requirements. EPA will be required to incorporate sources of fugitive emissions in its revised regulations defining the components of a "stationary source". Furthermore, EPA will be required to promulgate specific rules, possibly by industry type, which specify how fugitive emissions should be incorporated into the calculation to determine if a source is a "major emitting facility" subject to PSD requirements.

- Remanded EPA's generalized exemption for fugitive dust emissions. The Court allowed that EPA could achieve the intent of this remanded regulation by creating a special category of air pollutant; termed "excluded particulates", which would be regulated under NSPS requirements, but not by NAAQS's. This action would require significant rulemaking activities by EPA, and will result in a period of uncertainty for permit applicants.

- Remanded EPA's definition of major modifications. The Court remand will require a more restrictive definition of modification (i.e., any increase in pollutant emissions) which would appear likely to subject a significantly greater number of modified sources to PSD requirements. However, the Court also ruled that a source which accomplishes a modification and internally offsets any increases in emissions should not be subject to any PSD review requirements.

- Ruled that EPA-PSD regulations are not applicable to a source located in a non-attainment area, whose emissions impact a clean air area within the same state that the source is located. Regulation of these source emissions is left to the discretion of the specific state. Ruled that if a source located in a non-attainment area in one state impacts upon a clean air area in another state, the source would be subject to appropriate EPA-PSD regulations.

- Remanded EPA's BACT regulations and expanded the scope of BACT requirements to each pollutant subject to regulation under the Act, not just those having emissions exceeding

the 100 or 250 ton/year threshold levels. Upheld EPA's authority to include consideration of visible emissions standards as part of the BACT determination.

- Expanded the scope of PSD-related monitoring requirements to include all pollutants regulated under the Act that are emitted by the source. Interpreted the Congressional intent to require the utilization of monitoring data as a primary determinant of ambient air quality and allowable increment status, as well as a mechanism for imposing a certain degree of discipline on modeling techniques.

- Remanded EPA's regulations pertinent to the guidelines for State granted exemptions to PSD-related monitoring programs. EPA will be required to repromulgate the regulations with more specific guidance and requirements stated therein.

- Ruled that a baseline concentration must be determined at the time of filing of the first application in an area, and not as of August 7, 1977, the date which was applied uniformly to all areas of the United States in the EPA regulations.

- Upheld EPA's regulations that required all sources with emissions of 250 tons/year or more to be subject to PSD review requirements.

- Upheld EPA's authority to correct or prevent a violation of PSD increments, but disallowed EPA's authority to dictate to the State, policy for management of the consumption of allowable increments.

- Upheld EPA's regulations pertinent to utilizing GEP stack height limitations in modeling analyses, regardless of whether the actual stack height constructed is taller.

- Upheld EPA's regulations pertinent to exempting certain voluntary fuel switches from PSD requirements. Found no statutory authority for EPA to exempt from PSD requirements sources subject to State ordered fuel switches.

- Upheld EPA's authority to issue a comprehensive permit that addresses phased construction activities.

II. SUMMARY ANALYSIS OF JUNE 18, 1979 COURT OF APPEALS DECISION

A. General

The following analyses have been developed based upon the information contained in the June 18, 1979 summary decision and EAI's understanding and experience with the PSD regulations and licensing process. These analyses have been structured to present (1) the issue/regulation that was contested; (2) the Court's summary decision regarding the issue/regulation; and (3) the probable implications of the specific decision to PSD permit applicants.

B. Major Emitting Facility/Potential to Emit Definition (40CFR 52.21(b)(3))

1. Issue/Regulation

EPA regulations specified that a "major emitting facility" was any stationary source specifically listed in Section 169(1) of the Clean Air Act (CAA) which would emit or have the "potential to emit" 100 tons/year or more of any air pollutant, or any other stationary source with the "potential to emit" 250 tons/year or more of any air pollutant. This definition is a critical aspect of the overall PSD process, since only "major emitting facilities" would be required to obtain a PSD permit. Furthermore, critical to this determination, was the fact that EPA had interpreted the phrase "potential to emit" to mean the uncontrolled emission from the source, assuming no benefits from any installed pollution control equipment. The Court reviewed the EPA definition, in particular, the EPA's interpretation of the term "potential to emit".

2. Appeals Court Decision

The Court ruled that the EPA regulation was remanded for appropriate revision to reflect the following: "...an emitting facility is major within the meaning of section 169 (1) only if it either (1) actually emits the specified annual tonnage of any air pollutant, or (2) has the potential, when operating at full design capacity, to emit the statutory amount...." Further, the Court indicated that "potential to emit" must be calculated "...on the assumption that air pollution control equipment incorporated into the design of the facility will function to control emissions in the manner reasonably anticipated when the calculation is made...."

3. Implications to PSD Permit Applicants

The Court decision will have positive consequences for certain PSD permit applicants who have been designated as major emitting sources based on the EPA interpretation of "potential to emit". In accord with the decision, a source will not be subject to the PSD permit review process unless its actual emissions, or its potential emissions at full design capacity, incorporating all applicable air pollution control system pollutant reductions, equals or exceeds the statutory limits (i.e., 100 tons/year for the 28 specific categories, or 250 tons/year for all other sources). In this regard it would be prudent for those sources which can question their designation as major emitting facilities to actually determine their status in light of the decision. In the event the source is no longer considered a major emitting facility, it would not be subject to the PSD review process, nor would it require a PSD permit.

C. General Exemption For Stationary Sources Emitting Less Than 50 Tons/Year (40CFR52.21(j)(2),(k) (l) (ii))

1. Issue/Regulation

The EPA has included in its June 19, 1978 regulations a partial exemption from the preconstruction review and permit requirements for all major emitting facilities that did not effect a Class I area and that emitted less than 50 tons/year, 1000 lbs/day or 100 lbs/hour. The EPA regulations would have exempted such sources from the case-by-case BACT determinations, the requirements to demonstrate compliance with NAAQS and allowable PSD increments, the requirements to assess the direct and indirect effects of the source on visibility, soils and vegetation, and the requirement to provide monitoring data. The Court reviewed this regulation in consideration of EPA's statutory authority to grant such exemptions.

2. Appeals Court Decision

The Court remanded the regulation for further consideration by EPA. This remand was consistent with the Courts remand of the EPA regulation pertinent to major emitting facility (see Section B above). The Court stated that EPA does have authority to provide exemptions for "...circumstances that in context fairly may be considered de minimis...." or, "...to provide exemptions when compelled by administrative necessity...." and that EPA may refashion rather than terminate its exemption.

3. Implications to PSD Permit Applicants

While the Court's summary decision does allow EPA to provide exemptions for de minimis situations or when compelled by administrative necessity, it appears reasonable to expect that once EPA modifies its regulation pertinent to the definition of "major emitting facility", to reflect actual and/or controlled

emissions, it would no longer recognize the necessity for a two-tier review process, or de minimis cutoff levels for the review process.

D. Source Definition (40CFR52.21(b)(4))

1. Issue/Regulation

EPA had defined the term "stationary source" to include, "...any structure, building, facility, equipment, installation or operation (or combination thereof) which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person (or by persons under common control)." The Court was asked to address the questions of whether the components (i.e., structure, building, etc.,) included by EPA in the definition of a "source", and the broad approach to combining sources as inferred by the definition were consistent with the Clean Air Act.

2. Appeals Court Decision

The Court indicated that the proper definition of a "stationary source" under the Clean Air Act was provided by the Congress in the "New Source Performance Standards" Section (i.e., 111(a)(3)) of the law. This definition restricts the term "stationary source" to the nouns "building, structure, facility, or installation". The law's definition does not include the terms equipment or operation. Therefore, the Court instructed EPA to modify its definition of "stationary source" to be consistent with the definition specified in the law. However, the Court acknowledged that EPA has discretion to interpret the four statutory components of the definition to include a wide range of other components (e.g. equipment, etc.). In addition, the Court acknowledged that in defining a stationary source in order to embrace a grouping of industrial activities, the EPA does have discretion to define a term (e.g., "facility") to encompass an

entire plant or other "common sense industrial grouping". Resolution of the reasonableness of such EPA actions could only be decided on a case-by-case basis upon review of the specific application being questioned.

3. Implications to PSD Permit Applicants

The Courts decision would appear to allow EPA to modify the definition of "stationary source" so it will be consistent with the law and still accomplish the purpose intended by EPA. Therefore, it does not appear that this portion of the decision will impact any current or proposed PSD permit applicants.

In regard to EPA's approach to broadly including groupings of industrial activities as a common stationary source, the Court decision should facilitate challenges by industry respecting the "reasonableness" of such designations based upon the concept of a "common sense industrial grouping". The possibility of challenging the common grouping designation, coupled with the Courts redefinition of "potential to emit" could result in certain "groupings" of stationary sources no longer being subject to PSD requirements.

E. Fugitive Emissions

1. Issue/Regulation

The EPA-PSD regulations encompassed sources of "fugitive emissions" (including fugitive dust) as well as industrial point sources. Industry had challenged this regulation based upon the concept that the definition of stationary source (i.e., building, structure, facility or installation) could not be interpreted to encompass unconfined fugitive emission sources (e.g., mining operation). Furthermore, the EPA regulations treated both point source and fugitive emissions alike for purpose of determining whether the facility exceeded the annual tonnage threshold limits, and was, therefore, a "major emitting facility".

2. Appeals Court Decision

The Court ruled that EPA could "...define the term "facility" by the concept of "common sense industrial groupings" which would encompass application of the term to a source of fugitive emissions such as a major mining operation". The Court acknowledged that it was ruling on the "general question" (i.e., applicability of PSD requirements to fugitive emissions) and that specific situations in the future could still be assessed based upon the pertinent EPA regulations.

In regard to the inclusion of fugitive emissions in the calculation of the annual emissions from a facility for purposes of determining PSD applicability, the Court ruled that EPA is required to institute rulemaking before fugitive emissions, including fugitive dust, may be encompassed in the determination of whether an emitting facility qualified as "major". The Court further indicated that the rulemaking requirement gives EPA flexibility to provide industry-by-industry consideration and the appropriate tailoring of coverage.

3. Implications to PSD Permit Applicants

It appears likely that the EPA will revise the PSD regulations to incorporate sources of "fugitive emissions" in the definition of "facility". In addition, it could be expected that EPA will initiate rulemaking actions to promulgate regulations pertinent to the inclusion of fugitive emissions in the determination of whether a source is a "major emitting facility" subject to PSD requirements. The necessity for EPA to conduct the rulemaking activities will provide an opportunity for industry to substantively input to the actions. The Court decision on this issue will have its greatest impact on mining related activities, though it will also effect other facilities that have fugitive emissions (e.g., power plants).

F. Fugitive Dust Exemption (40CFR 52.21(k)(5))

1. Issue/Regulation

EPA had provided a partial exemption from the statutory permit requirements for major emitting facilities of fugitive dust. The regulations exempted such sources from the requirement to demonstrate compliance with national ambient air quality standards and maximum allowable non-deterioration increments for particulates. The Court reviewed the statutory basis for this exemption.

2. Appeals Court Decision

The Court remanded EPA's generalized exemption for fugitive dust. The Court also offered EPA an administrative strategy pertinent to achieving the intent of the remanded EPA regulation. The Court indicated that "...EPA has discretion to define the pollutant termed "particulate matter" to exclude particulates of a size or composition determined not to present substantial public health or welfare concerns...." Such "excluded particulates" would not be included on the listing of national ambient air quality standards (NAAQS) pollutants. Therefore, a source would not be required to demonstrate compliance for this pollutant with either NAAQS's or allowable PSD increments. However, the Administrator could include a source that emits the "excluded particulates" on the listing requiring the application of new source performance standards. Inclusion on this listing would make the "excluded particulates" a pollutant regulated under the Act and, as such, subject to applicable BACT requirements if the source were determined to be a "major emitting facility". The net result of the Courts' suggestions would be to subject fugitive emissions from a "major emitting facility" to BACT requirements while excluding the source from the necessity to demonstrate compliance with NAAQS's and non-deterioration increments for the "excluded particulates", yielding the exact same requirements that the source would have been subject to under the EPA regulations.

3. Implications to PSD Permit Applicants

If EPA implements the Court's suggestions, as described above, it will be necessary for EPA to modify the existing air quality criteria documents for particulate matter, and the associated NAAQS's. After these actions were completed, PSD permit applicants would basically be subject to the same PSD review process as was applicable under the remanded June 19, 1978 EPA regulation. However, if EPA does establish standards based upon pollutant categories designated as particulates and "excluded particulates" it would appear to create a significant amount of uncertainty regarding the exact definition of these pollutants and the impact this approach would have on determining "baseline", available increments and attainment/nonattainment area status for particulates. In addition, during the period that EPA is developing the revised standards, and initiating the rulemaking activities discussed previously in Section E herein, applicants that have "fugitive emissions" would not appear to be subject to specific PSD regulations.

It should be noted that EPA could also attempt to include all particulate matter in the NAAQS, thereby subjecting each major emitting facility to the full spectrum of PSD review requirements. In this case it would be incumbent on EPA to determine that all particulate matter presents substantial public health or welfare concerns.

G. Major Modification Definition (40CFR52.21(b)(2)(i)(j)(k))

1. Issue/Regulation

EPA regulations defined "major modification" to mean ...any physical change in, change in the method of operation of, or addition to a stationary source which increases the potential emission rate of any air pollutant regulated under the act...by either 100 tons per year or more for any source category identified in paragraph (b)(1) (i)...or by 250 tons per year or more for any stationary source".

EPA regulations also restricted an emitter from making changes in a major emitting facility without first receiving authorization for such changes, even though the changes would be planned to result in no net increase in the potential to emit any air pollutant.

2. Appeals Court Decision

The Court remanded EPA's definition for "major modification". Citing the definition of "modification" as contained in Section 111 (a)(4) of the Act, the Court ruled that "...a modification within the meaning of the PSD part is any physical change in or change in the method of operation of a stationary source that increases in any amount the quantity (when calculated for operation at full design capacity) of any air pollutant emitted by the source or that results in the emission of any air pollutant not previously emitted." The Court did indicate that EPA does have authority to exempt from scrutiny "de minimis" emission increases caused by a "modification" of a stationary source.

In regard to the question of EPA restricting the action of a major emitter which plans on modifying an existing source without incurring a net increase in emissions or the emission of a new pollutant, the Court ruled that the restrictions are beyond EPA's statutory authority. The Court allowed that EPA could define the components of the term "stationary source" narrow enough to effectively impose restrictions on such modification activities. However, EPA's latitude in this respect would be confined by the condition that EPA's definition of "stationary source" would govern not only the definition of "modification", but also the definition of major emitting facility. The Court further clarified that the "modification" of a stationary source has two components, "...(1) there must be a physical change in or a change in the method of operation of a stationary source; and (2) there must be a net increase in the potential to emit any air pollutant." Basically, the Court summarized its position on this

issue by stating that "... a series of contemporaneous changes in the source does not qualify as a "modification" within the meaning of the PSD part if it does not result in a net increase in the source's potential to emit any air pollutant."

3. Implications to PSD Permit Applicants

In accord with the Court action, EPA will be required to modify its regulations to define "modification" in a much more stringent manner (i.e., any increase in emissions) then that contained in the June 19, 1978 regulations. The change in definition for modification would appear to increase the number of sources that will be subject to the PSD permit and review requirements. In addition, the change in definition could also impact the "baseline" determination and the allowable nondeterioration increment available for consumption by new or future "modified" sources. EAI wishes to note that Section 165(b) of the Act exempts from the PSD increment review, any modification of a major emitting facility in a Class II area which was in existence on August 7, 1977 and which will not incur an increase in emissions of 50 tons/year or more as a result of the modification. The source would still be required to employ BACT and undergo an air quality impact review to demonstrate compliance with secondary NAAQS's.

The Court action can also have positive implications for those existing sources that can accomplish a modification without increasing emissions of any regulated pollutants. In accord with the Court's opinion such sources would not be subject to any portion of the PSD permit or review requirements.

H. Sources Located in Nonattainment Areas (40CFR52.21(i)(1))

1. Issue/Regulation

EPA's regulations applied the PSD permit and review requirements to all major emitting facilities that significantly impacted a clear air area. The regulations were applicable to a major emitting facility that was located in a nonattainment area, if its emissions significantly affected nearby attainment (i.e., clean air) areas. The Court reviewed the applicability of PSD requirements to such sources.

2. Appeals Court Decision

The Court ruled that the PSD requirements are not triggered by sources located in nonattainment areas whose emissions effect a clean air area within the same state that the source is located. Basically, it is left to the discretion of the specific state to plan its internal growth to accomodate such developments in the manner that state deems best. However, sources located in a nonattainment area whose emission significantly impact a clean air area within a different state are subject to applicable PSD permit and review requirements.

The Court action will require EPA to modify its existing regulations to reflect the distinction in PSD applicability to a source located in a nonattainment area whose emissions effect clean air areas within the state as opposed to one whose emissions impact ajoining states.

3. Implications to PSD Permit Applicants

The Court decision could result in decreasing the time required for applicants locating facilities in nonattainment areas that impact a clean air area in the same state,since such sources may not be subject to the extensive PSD review and moni-

toring requirements. The actual benefits that will be incurred from this portion of the decision will depend upon the review process adopted by the individual states as they implement the requirements of the law and the Court decision. It would appear reasonable for existing PSD permit applicants that have been subjected to the PSD permit process as a result of EPA's regulations pertinent to nonattainment area located sources to formally request relief from PSD required activities as well as from the actual necessity to obtain a PSD permit. The appropriate SIP requirements should be reviewed to determine whether the source could commence construction at an earlier time than would be allowed by the PSD permit requirements. Sources located in a nonattainment area whose emissions impact an attainment area in an ajoining state will be subject to PSD requirements as promulgated by EPA in accord with the Court decision.

I. Best Available Control Technology (40CFR52.21(b)(10),(i)(1))

1. Issue/Regulation

EPA regulations provide that BACT "...means an emission limitation (including a visible emissions standard)..." The Court was asked to rule on the inclusion of the parenthetical statement in the EPA definition for BACT, since no similar statement was contained in the Clean Air Act BACT definition.

EPA regulations required BACT only for those pollutants emitted in amounts surpassing, as appropriate, the 100 or 250 ton/year (uncontrolled emissions) threshold levels. The Court also reviewed this portion of the regulations for it consistency with the statutory requirements.

2. Appeals Court Decision

The Court upheld EPA's authority to include consideration of visible emission standards in BACT determinations. The Court indicated it did not "...construe the regulations as requiring inclusion of a visible emissions standard in every case..." and that the "...application of BACT requirements is subject to appropriate Court review on a case-by-case basis."

In regard to the EPA regulation limiting the applicability of BACT to only those pollutants for which the source would qualify as a major emitting facility, the Court ruled the regulation was incorrect and as such was remanded. The Court stated that the Clean Air Act contains "...an unambiguous statutory command - BACT for each pollutant subject to regulation under this Act emitted from, or which results from, such facility...." The Court allowed that EPA has authority to apply "de minimis" thresholds, but did not agree that the current regulation would satisfy these requirements.

3. Implications to PSD Permit Applicants

The Court action would appear to expand the regulatory review requirements that could be imposed on an applicant requesting a PSD permit. The explicit statements by the Court respecting appropriate BACT requirements will result in new EPA regulations which could require BACT determinations and application for significantly more pollutants than would have been required under the previous regulation. In addition, the decision clarified EPA's authority to address visible emission standards as part of the BACT review.

J. Monitoring (40CFR52.21(n))

1. Issue/Regulation

EPA regulations require monitoring only for National Ambient Air Quality Standard (NAAQS) designated pollutants. The Court reviewed EPA's monitoring regulations with specific regard to the limited spectrum of the monitoring requirements (i.e., NAAQS pollutants). In addition, the Court reviewed EPA's monitoring regulations from the perspective of how the Act required such data to be utilized.

The Court also addressed the question of whether the law required EPA to impose post-construction monitoring requirements on PSD permit recipients, and whether the EPA regulations were adequate to provide meaningful guidance to the States respecting their discretion to provide exemptions to the monitoring requirements.

2. Appeals Court Decision

The Court ruled that the law explicitly requires stationary sources that are subject to the PSD review process to monitor "...for each pollutant subject to regulation under the ACT which will be emitted from such facility." Therefore, the EPA regulations which limit the scope of monitoring programs to only NAAQS pollutants are not consistent with the statutory mandate. The Court did acknowledge EPA's administrative discretion to dispense with monitoring for "de minimis" situations.

In regard to the use of the monitoring data, the Court cited Section 165(e)(2) of the Act which states, in part, that continuous air quality monitoring data should be gathered for "...purposes of determining whether emissions from such facilities will exceed the maximum allowable increases or the maximum allowable concentration permitted under this part." The Court

further indicated that it discerned "...from the statute a technology-forcing objective..." and that "...Congress intended that monitoring would impose a certain discipline on the use of modeling techniques, which would be the principal device relied upon for the projection of the impact on air quality of emissions from a regulated source." Basically, the Court concluded that EPA was required to utilize monitoring data to the greatest extent possible to determine compliance with PSD ambient air quality related requirements, and to use such data to provide a check on the result of modeling analyses.

The Court found that EPA is not mandated to impose post-construction monitoring requirements on PSD permit recipients, and that the EPA regulations in this regard were valid. The Court did acknowledge that EPA could impose such requirements at its discretion.

The Court remanded the EPA regulations that provided guidance to the States for granting monitoring program exemptions. The remand was based on a finding that the regulations "...failed to provide concrete guidance to the cognizant state authorities for the exercise of the partial exemption authority...."

3. Implications to PSD Permit Applicants

The actions taken by the Court could have a number of significant consequences for PSD permit applicants. EPA will be required to modify its regulations in order to expand the monitoring program requirements to include "any regulated pollutant" emitted by the source, with possible exceptions for "de minimis" emissions. It could be expected that permit applicants will be required to establish more extensive monitoring programs then would have been required under the previous regulations.

The Court's interpretation of Congress's intended use for the monitoring data would appear to increase the likelihood that monitoring data will be required to support PSD permit applications. However, this interpretation could also act as an impetus to facilitate the utilization of monitoring data as a basis for calibrating and possibly reducing the conservatism generally inherent in modeling analyses. A question not addressed in the Court's summary opinion concerns the acceptability of available or limited monitoring data in lieu of a full year of applicant-obtained monitoring data. Currently, EPA does accept such data. If this policy were to change as a result of the Court action, the permit process would definitely become more expensive and time consuming.

Revision of the EPA regulations pertinent to the granting of limited exemptions by the States has the potential to result in a tightening of the PSD review process. Under the previous regulations, the States had broad discretion in making a determination on the necessity for, and scope of, a required monitoring program. The promulgation by EPA of more specific regulations providing "concrete guidance" would appear to limit State discretion and as such would tend to increase the likelihood that monitoring programs will be required.

K. Baseline Definition (40CFR52.21(b)(11))

1. Issue/Regulation

EPA regulations specify that "baseline" must be determined for each clean air area as of August 7, 1977. The Court reviewed this definition based upon the requirements specified in the Act. Furthermore, the Court also reviewed the approach taken by EPA to determine which sources should be designated as existing sources contributing to the baseline concentration and which sources should be considered to contribute towards using up the allowable non-deterioration increment.

2. Appeals Court Decision

The Court ruled that EPA's definition of the term "baseline concentration" was not consistent with that specified in the Act. Specifically, the Act indicated that baseline should be determined "...at the time of the first application for a permit in an area...." This definition conflicts with the EPA regulation that established a uniform date (i.e., August 7, 1977) for the specification of baseline concentration applicable to all areas in the United States. The Court further indicated that "...the wording used by Congress reflects a choice to rely chiefly on the data base provided by the one year pre-application monitoring requirement...." EPA will be required to modify its regulation to reflect the Court's ruling.

In regard to the "accounting of emissions", the Court ruled that EPA has interpreted the Act correctly. Basically, the "baseline concentration" should be composed of the summation of two components: (1) the ambient concentrations measured at the time of the first filing of a PSD permit application in an area; and (2) the predicted ambient concentrations (based on full design capacity) for all major emitting sources affecting the area that commenced construction prior to January 6, 1975, but which have not begun operation by the date of the baseline concentration determination. All major emitting sources that commenced construction after January 6, 1975 would not contribute to the baseline concentration, but would be subtracted from the allowable non-deterioration increment.

3. Implications to PSD Permit Applicants

The effect of the Court decision would not appear to significantly alter either the requirements or substantive conditions confronting an applicant requesting a PSD permit. It would appear possible, however, that in certain areas, the delay in the date for determining baseline concentration from August 7,

1977 to the time the first application is filed could decrease the available non-deterioration increment. For example, if a large number of small source (i.e., non-major emitting facilities) were to be located in an area after August 7, 1977, their contribution to the baseline condition (as measured by monitoring data) at the time of the first permit application filing could limit the available increment (i.e., between baseline and NAAQS) for development of new major emitting facilities or the modification of existing major emitting facilities.

L. Section 169(1) Special Minimum Size Limitations (40CFR52.21(b)(1)(ii))

1. Issue/Regulation

In Section 169(1) of the Clean Air Act, the Congress included minimum size limitations applicable to four of the twenty-eight specific categories of stationary sources which would be subject to PSD requirements if they had the potential to emit 100 tons/year or more of any pollutant. The four categories and minimum size limitations were: fossil fuel-fired steam electric plants of more than 250 million BTU/Hr heat input: municipal incinerators capable of charging more than 250 tons/day: fossil fuel boilers of more than 250 million BTU/Hr heat input: and, petroleum storage and transfer facilities with a total capacity exceeding 300,000 barrels.

The issue brought before the Court was whether the special conditions contained in the Act's definitions were applicable to these four categories of stationary sources when their potential emissions exceeded the general 250 ton/year threshold. EPA's regulations had disregarded the special size limitations and had made all sources with emissions or potential emissions of 250 tons/year or more subject to the PSD requirements.

2. Appeals Court Decision

The Court upheld the EPA regulation.

3. Implications to PSD Permit Applicants

The decision by the Court will not impact the existing EPA regulations or the existing PSD permit process.

M. Regulation of Pollutants Other Than Sulfur Dioxide and Particulate Matter (40 CFR52.21(i)(1))

1. Issue/Regulation

The EPA regulations extended the PSD preconstruction review and permit process to encompass pollutants other than sulfur dioxide and particulate matter. EPA basically required monitoring, NSPS review and BACT determinations for certain other pollutants if they were emitted from the source.

2. Appeals Court Decision

The Court upheld EPA's authority to review and regulate other pollutant emissions, in addition to sulfur dioxide and particulate matter, as part of the PSD preconstruction permit process.

3. Implications to PSD Permit Applicants

In its supporting arguments, the Court indicated that the PSD section of the law required "...a demonstration of compliance with any applicable emission standard or standard of performance...a requirement for application of BACT for each pollutant subject to regulation under the ACT... a requirement of monitoring also for each pollutant regulated under the Act...." The explicit citations offered by the Court could result in an even

greater expansion of the EPA-PSD review/ regulatory requirements as applicable to pollutants other than sulfur dioxide and particulate matter.

N. Protection of Increments (40CFR51.24(a)(3))

1. Issue/Regulation

The question addressed by the Court was whether EPA could dictate to the States a policy for management of the consumption of allowable increments when a SIP was found to be substantially inadequate to prevent significant deterioration.

2. Appeals Court Decision

The Court ruled that EPA "...has authority under the statute to correct or to prevent a violation of the increments, but not to dictate to the States their policy for management of the consumption of allowable increments." The Court did support EPA's authority to deny a preconstruction permit if the operation of the source would cause a violation of the allowable increments. In addition, the Court stated that once it is determined increments are being exceeded, EPA "...has authority to require a rollback of operations or the application of retrofit air pollution control technology so long as such requirements are reasonable."

3. Implications to PSD Permit Applicants

The Court decision would not appear to alter the general requirements and restrictions facing PSD permit applicants. It should be noted, however, that the Court did confirm the EPA's authority to require "...a rollback of operations or the application of retrofit air pollution control technology...." when reasonable, if it is determined that increments are being exceeded.

O. Modeling (40CFR52.21(m))

1. Issue/Regulation

The Court was requested to review the EPA modeling regulations based on the contentions that they failed to respond to comments regarding "...(1) the inhibitory effect of the guidelines on the adoption of newly proposed potentially more accurate air pollution dispersion models; (2) the conservative nature of the assumptions employed in formulating the modeling guidelines; and (3) the failure of the guidelines to adopt the type of modeling analysis employed in a 1975 EPA/FEA report to Congress."

2. Appeals Court Decision

The Court upheld the EPA modeling regulations. However, the Court stated that its ruling was a limited one and indicated that EPA should proceed in the area with the care and flexibility appropriate to such intricate and novel subject matter.

3. Implications to PSD Permit Applicants

It does not appear that the Court action will at this time alter, to any significant degree, the PSD regulatory process.

P. Stack Height

1. Issue/Regulation

The EPA "stack height" regulations require modeling of emissions based on the stack height that reflects "good engineering practice (GEP)." This regulation was challenged on the basis that if a source employed BACT and if the actual stack height was greater than the GEP stack height, the source should be given credit for the low concentrations resulting from the taller stack.

EPA regulations also require the analysis to apply theoretical GEP stack heights to existing sources when assessing a permit application for a new source. This regulation was also challenged based on the argument that the air quality impacts of sources previously granted permits should be calculated on the basis of their actual stack heights.

2. Appeals Court Decision

The Court upheld the EPA regulations and agreed with EPA's interpretation of the Act.

3. Implications to PSD Permit Applicants

The Court action will have no effect on the EPA regulations. Therefore, PSD permit applicants will continue to only receive credit for the "theoretical" GEP stack height in the performance of all modeling studies. Furthermore, when modeling is required to determine baseline and the available increments, all stacks which were not constructed by December 31, 1970 must be modeled based on their appropriate GEP stack height as opposed to the actual height of the stack.

Q. Fuel Switches (40CFR52.21(b)(2)(ii)(d),(b)(11))

1. Issue/Regulation

The EPA regulations exclude, from the definition of modification, voluntary fuel switches by facilities constructed prior to January 6, 1975 that had the design capacity as of that time to accommodate such fuel switch. In addition, the EPA regulations would count the increased emissions that resulted from such voluntary fuel switches against the allowable non-deterioration increments. The Court was requested to review these aspects of the PSD regulations.

EPA regulations also contain special exemptions for federally ordered fuel switches, which is consistent with explicit wording in the Clean Air Act. The Court was requested to review the applicability of providing similar exemptions in the regulations for "state" ordered fuel switches.

2. Appeals Court Decision

The Court upheld the EPA regulations pertinent to voluntary fuel switches, and found no statutory authority for EPA to grant exemptions for sources subject to "state" ordered fuel switches.

3. Implications to PSD Permit Applicants

The Court action should not alter the general situation that has been facing a PSD permit applicant since the promulgation of the final PSD regulations. A point to note, however, was the Court's explicit acknowledgement that "...a facility designed to burn, either natural gas or coal, has the design capacity to do either. A shift from one fuel to the other does not increase the potential to emit any air pollutant and thus does not constitute a modification for the purposes of the PSD provisions." This explicit interpretation could clarify the situation facing a number of existing sources which might be planning a shift in fuels. A question that still exists, but may be clarified in the detailed opinion, is whether a facility whose boiler is designed to fire both oil and coal, but which will require the installation of coal handling equipment to facilitate the fuel switch would be considered a "modification" subject to the full spectrum of PSD review requirements.

R. Phased Construction Projects (40CFR52.21(s)(2)(3))

1. Issue/Regulation

EPA's regulations recognize the need for a comprehensive permit pertinent to construction projects that are to be completed in phases. For such permits, EPA requires that the applicant agree to: satisfy an independent BACT determination for each phase; commence construction on each phase within 18 months of the target date specified in the original application; and to avoid any gaps in the course of construction which exceed 18 months in duration. The Court was asked to review this regulation.

2. Appeals Court Action

The Court upheld EPA's statutory authority to issue conditional permits and found the specified conditions of the comprehensive permit reasonable.

3. Implications to PSD Permit Applicants

The Court action will not result in any change to the EPA-PSD rules, and should not alter the existing regulatory process.

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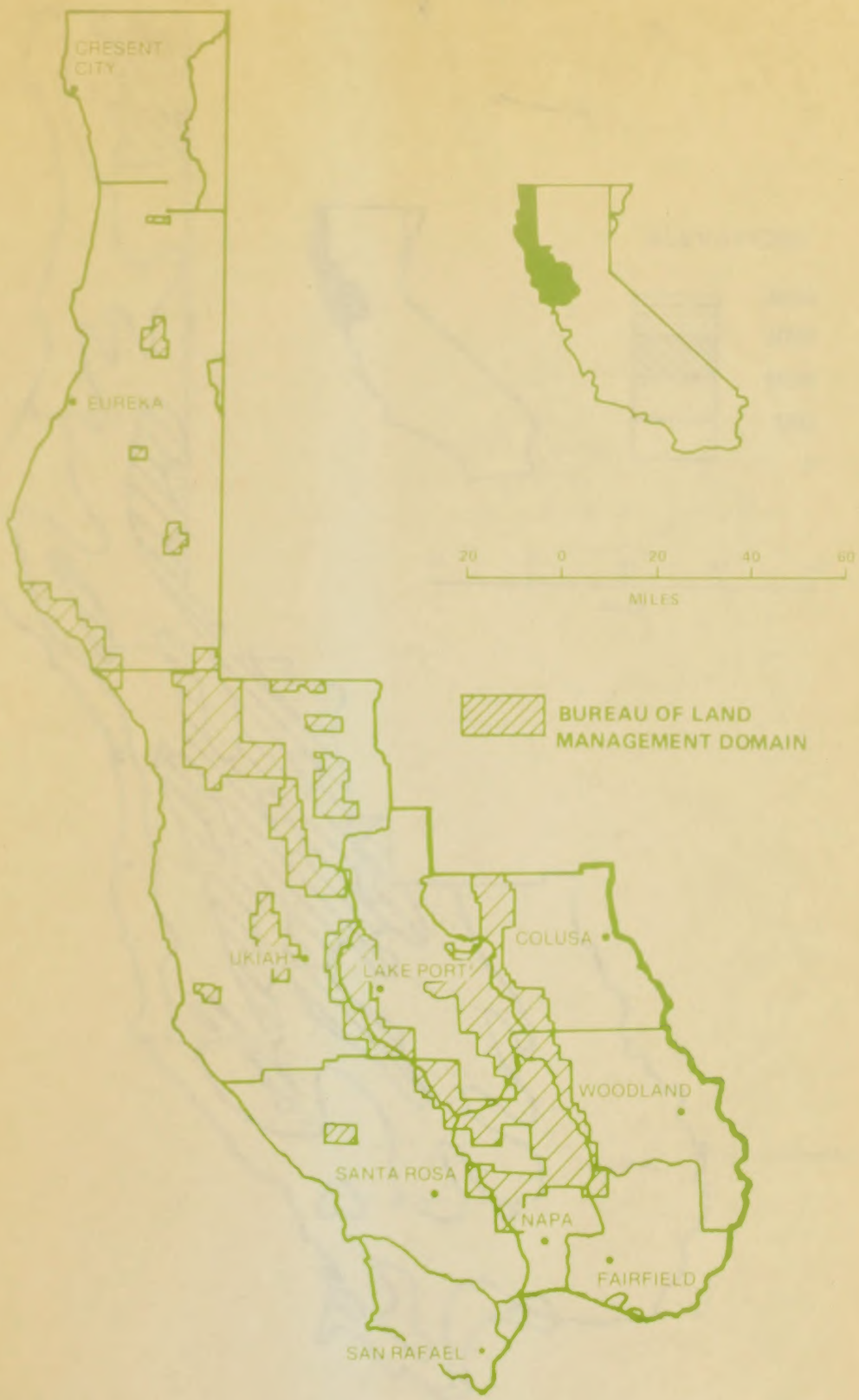
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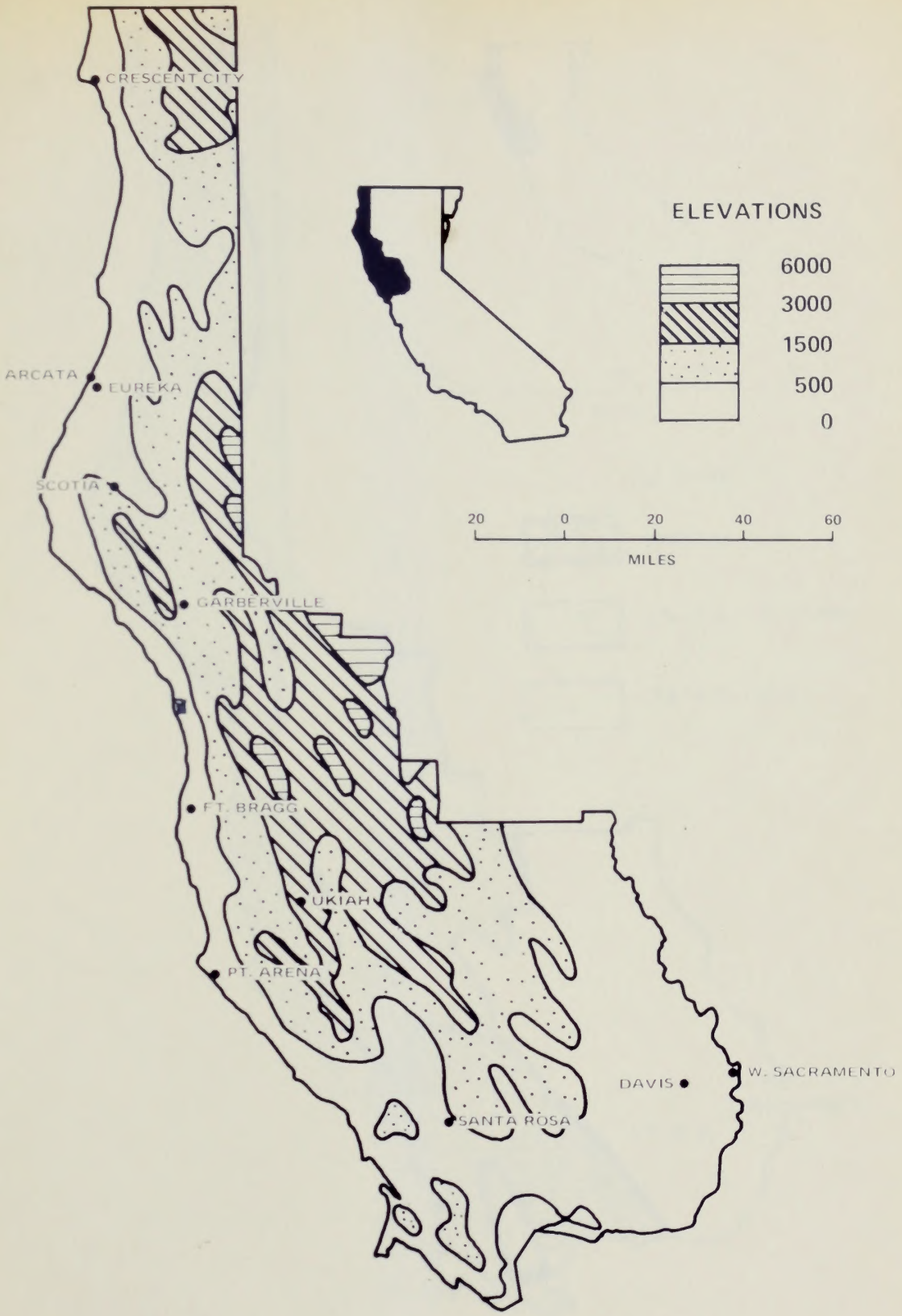
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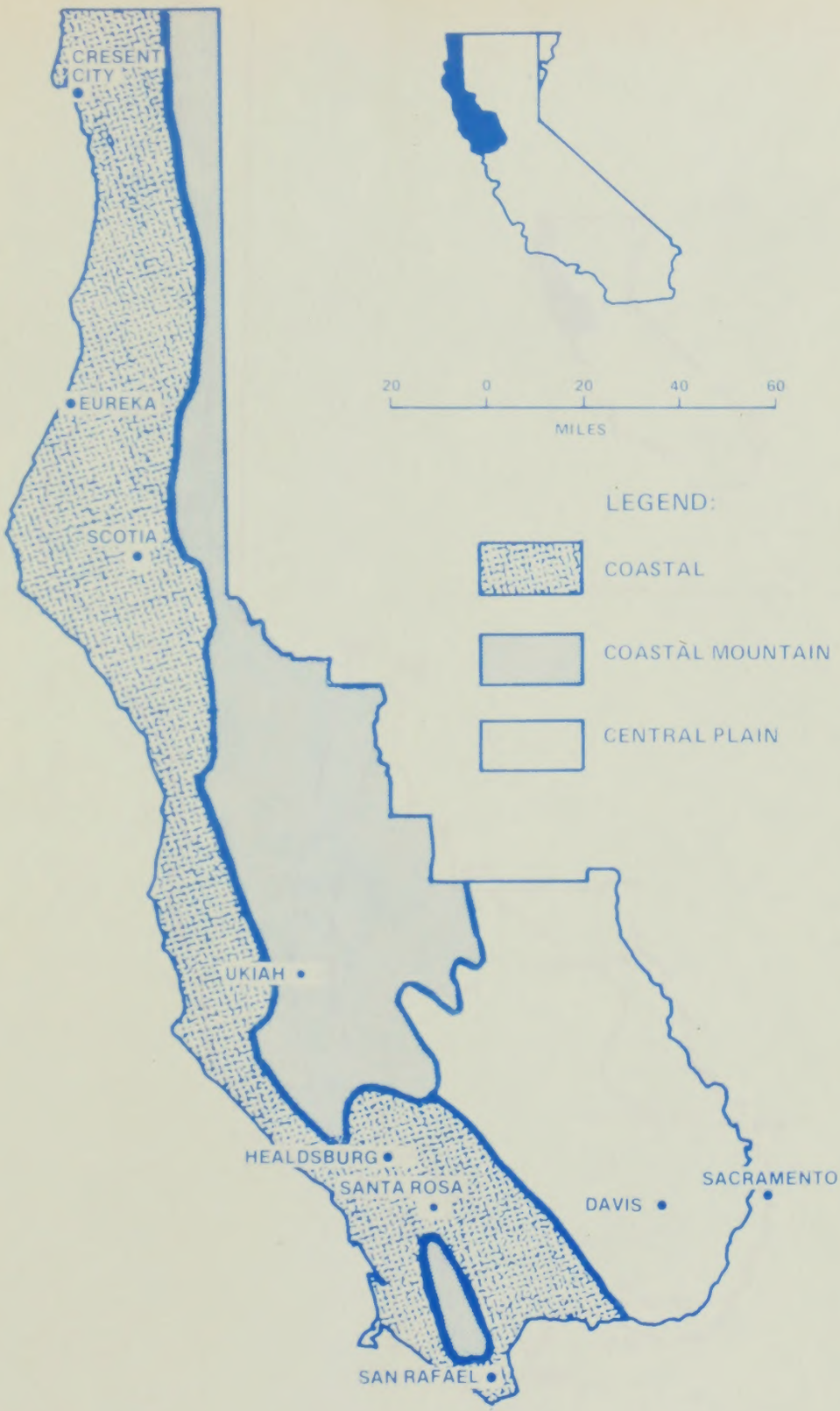
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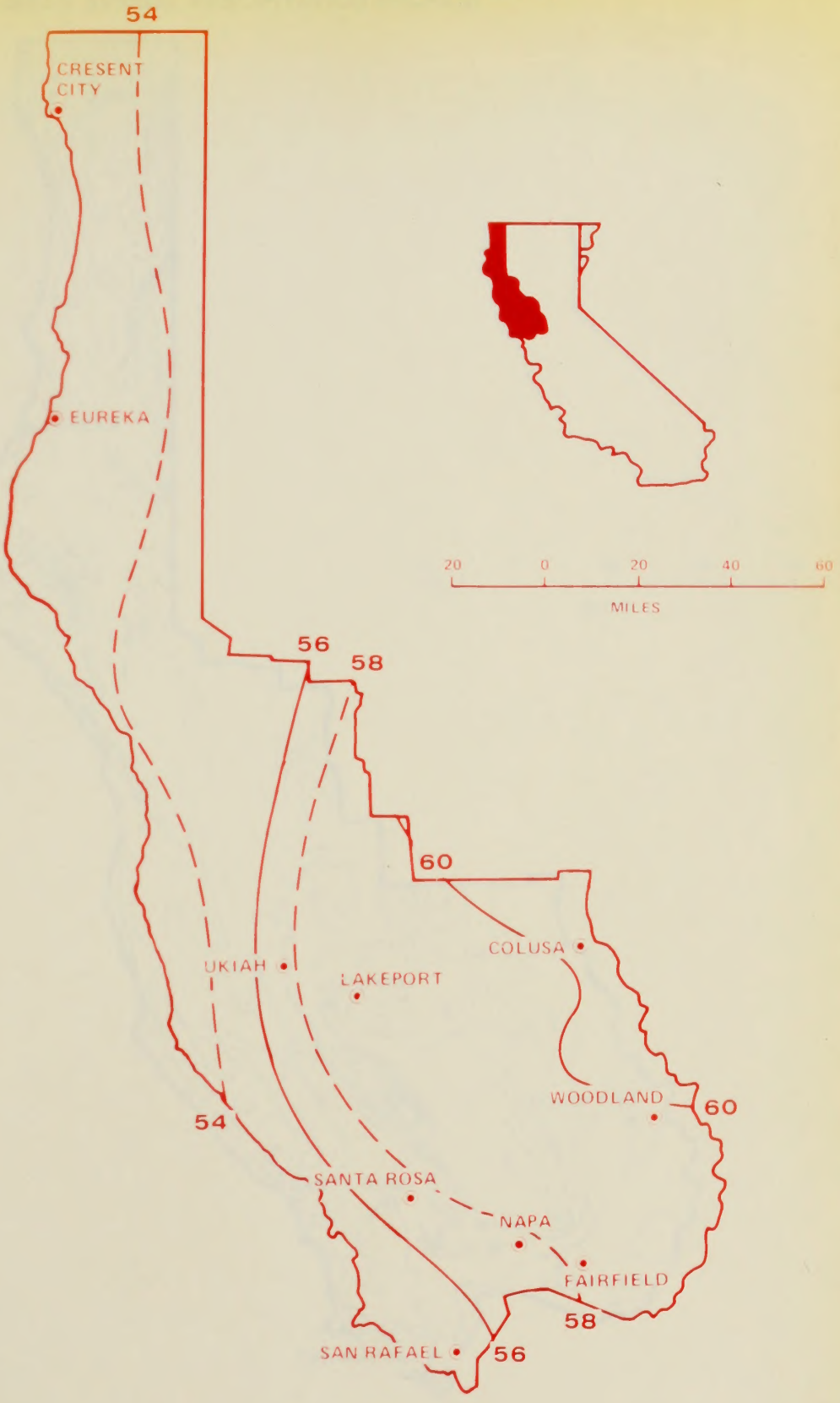


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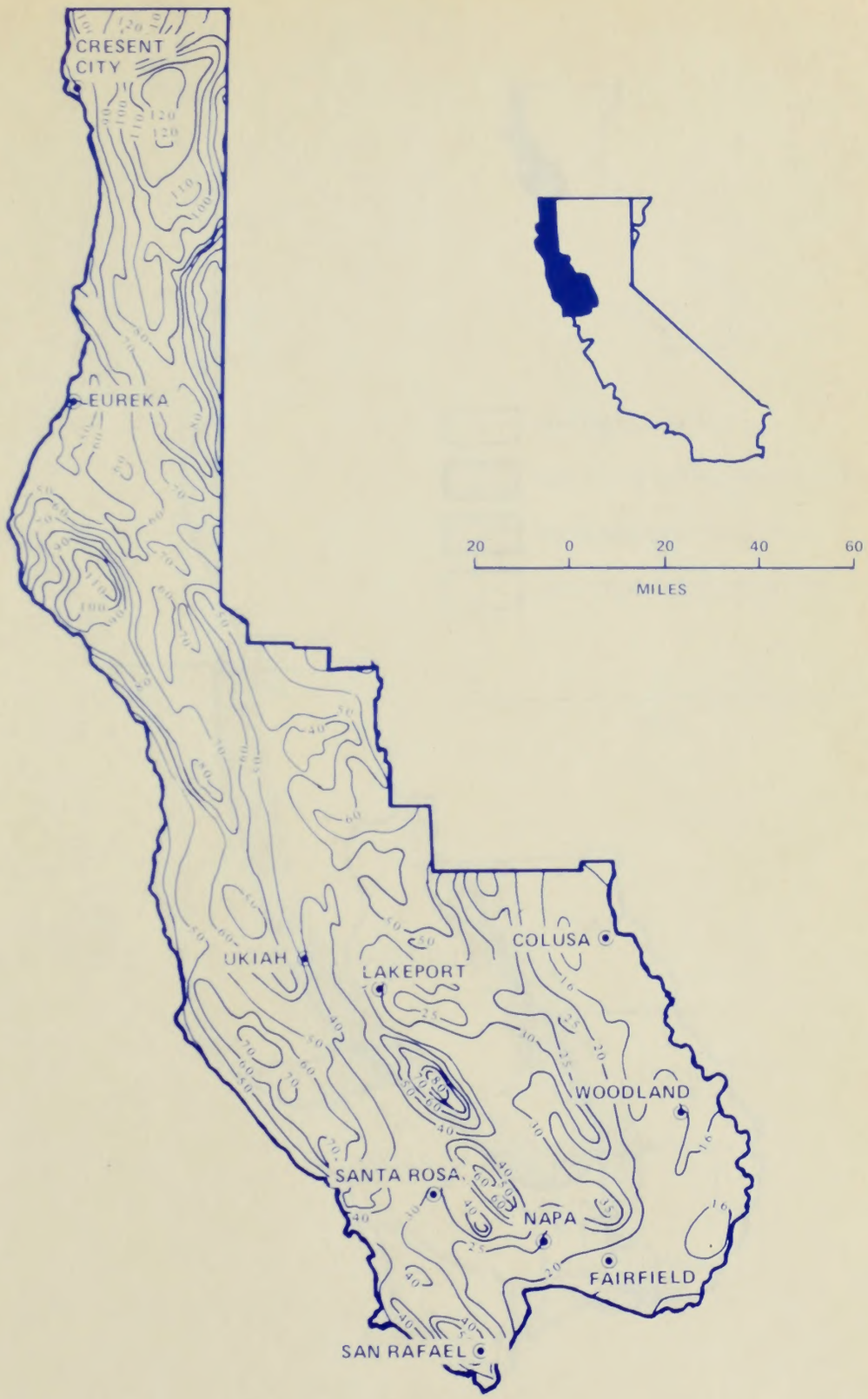


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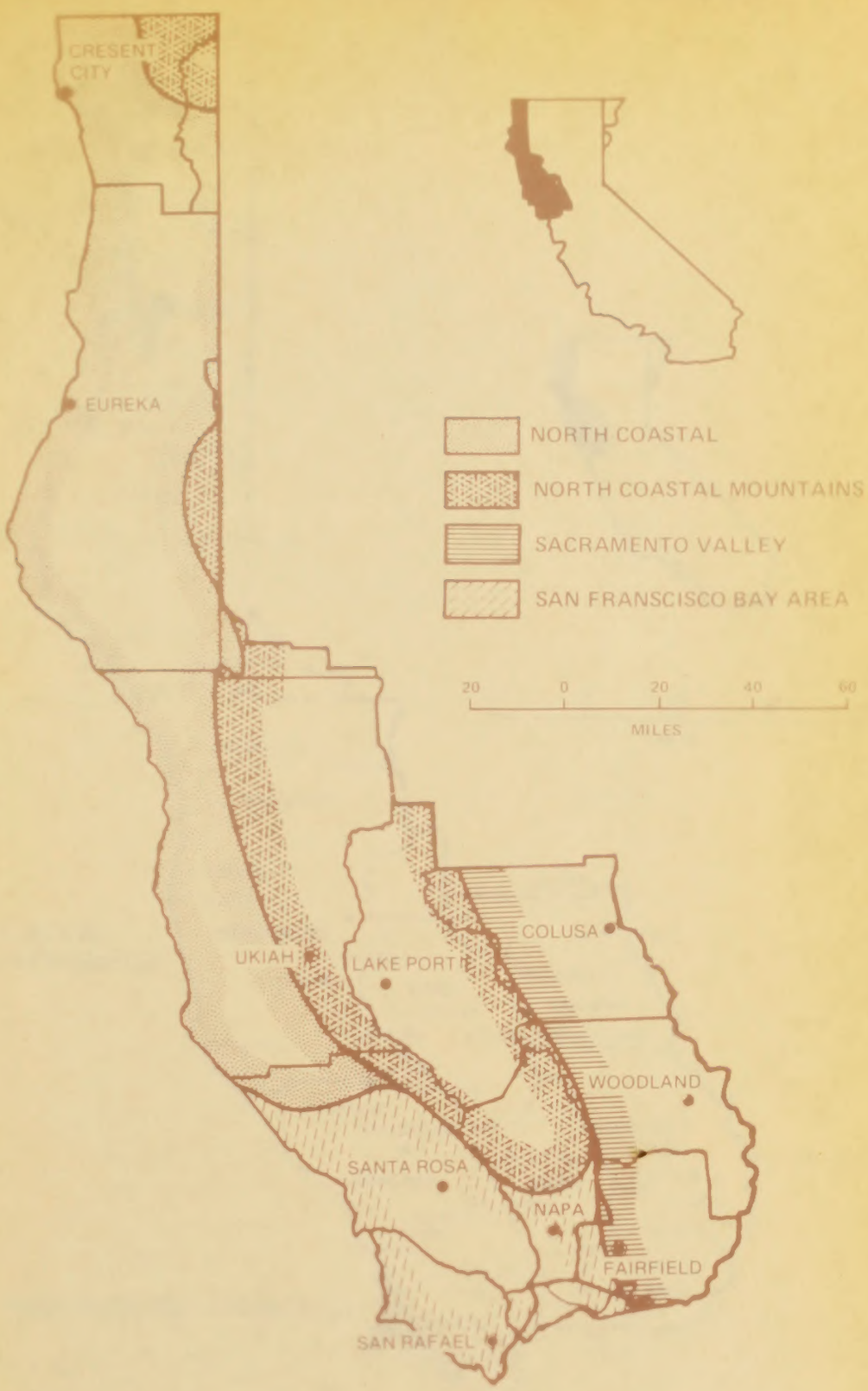
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